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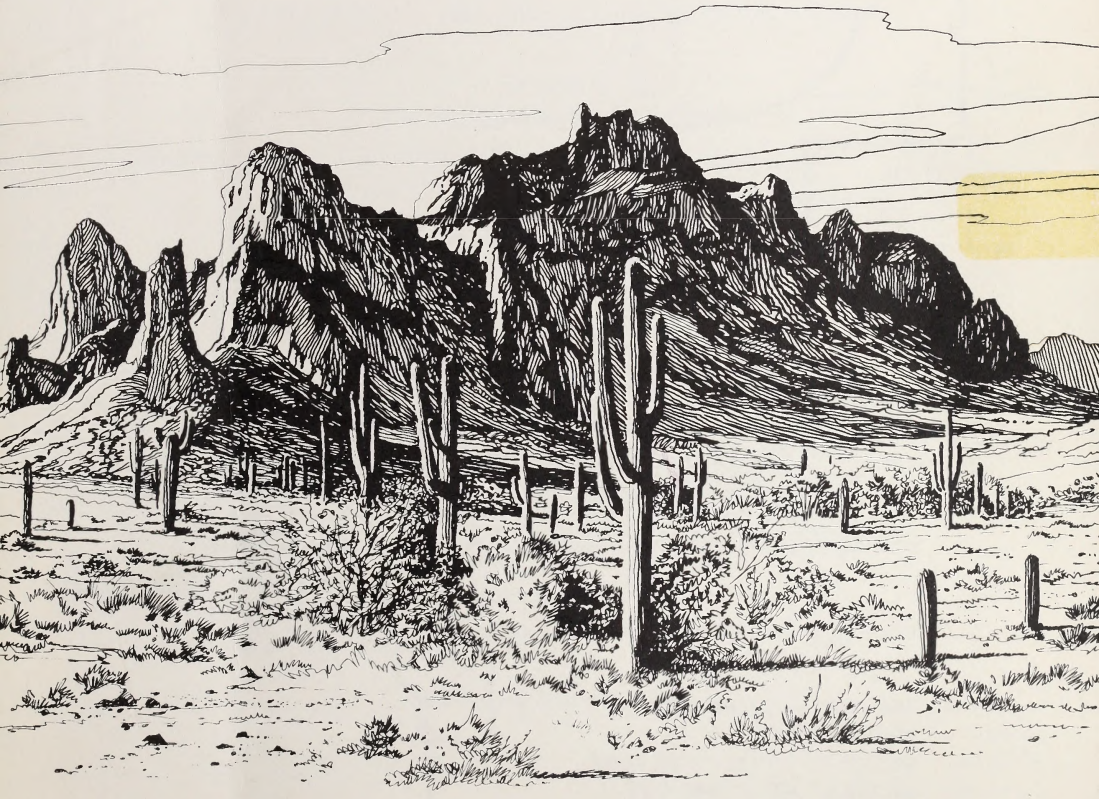
LOWER GILA SOUTH

Resource Management Plan
Environmental Impact Statement
Phoenix District, Arizona

Draft



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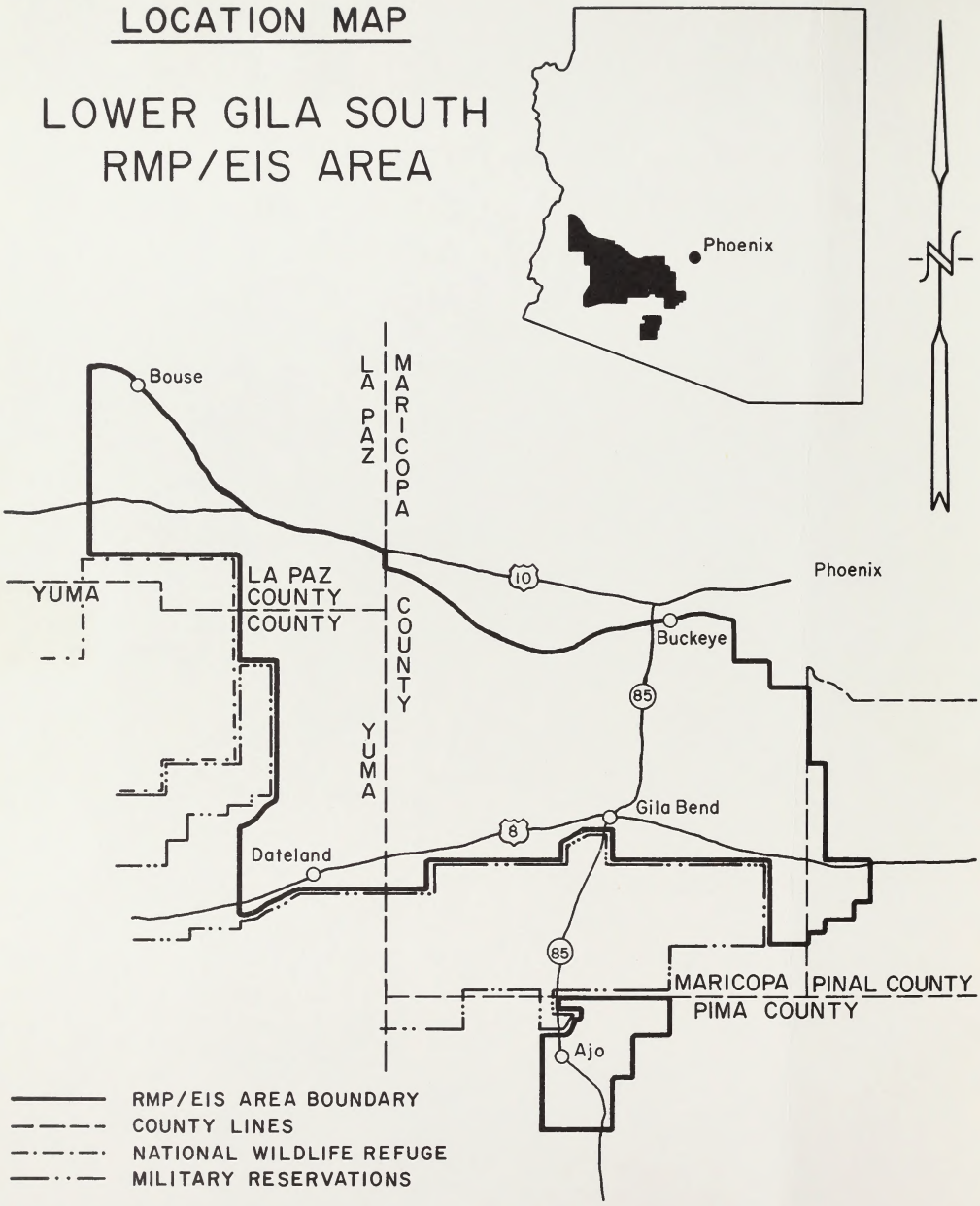
Arizona

LOCATION MAP

LOWER GILA SOUTH RMP/EIS AREA



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DRAFT
RESOURCE MANAGEMENT PLAN/ ENVIRONMENTAL IMPACT STATEMENT

for the

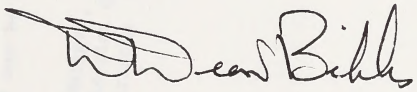
LOWER GILA SOUTH RMP/EIS AREA

LA PAZ, MARICOPA, PIMA, PINAL, AND YUMA COUNTIES, ARIZONA

Prepared by

THE DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
PHOENIX DISTRICT



State Director

Arizona State Office

This Draft Resource Management Plan/Environmental Impact Statement (RMP/EIS) describes and analyzes five alternatives for managing the public lands in the Lower Gila South RMP/EIS area: (1) *Proposed Action,* (2) *No Action,* (3) *Resource Production,* (4) *Resource Protection,* and (5) *Environmental Protection.* A concise description of the affected environment and an analysis of the environmental consequences resulting from the *Proposed Action* and each alternative are included in this document.

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Comments on the Draft RMP/EIS are due: MAY 02 1985

NOTICE TO READERS

Please keep this draft EIS for possible use as part of the final EIS. Council on Environmental Quality regulations [43 CFR 1503.4(c)] provide for circulation of abbreviated final EISs where major changes to the draft are not required. If the public review requires only minor changes to the draft, then the final EIS will consist of this draft and a supplement containing public comments, responses to comments, and necessary changes and corrections. This procedure will cut printing costs and speed up the environmental process.

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SUMMARY

SUMMARY

Purpose and Need

The Bureau of Land Management (BLM) is under congressional mandate to provide for orderly use and development of the public lands and to preserve the land and its resources from destruction. The Federal Land Policy and Management Act of 1976 (FLPMA) directs BLM to periodically inventory the lands and to project present and future uses in land use plans. These plans, management framework plans (MFPs) and resource management plans (RMPs), ensure that public lands are managed on a multiple use and sustained yield basis and that the quality of natural resources is preserved.

Section 603 of FLPMA directs the Secretary of the Interior to review roadless areas of 5,000 acres or more having wilderness characteristics, and by 1991 to recommend to the President the suitability of such areas for preservation as wilderness. Within two years after receiving a recommendation, the President must send a report to Congress. Congress, however, has no time limit for acting on the President's recommendations.

This RMP/EIS (resource management plan/environmental impact statement) analyzes the impacts of implementing one of five alternative land use plans or a combination of two or more alternative plans for the Lower Gila South Planning Area. The five alternatives for the management of public lands in the Lower Gila South RMP/EIS Area have been developed and analyzed through the Resource Management Plan Action Steps outlined in Appendix 1. The alternatives respond to the major issues identified early in the planning process.

Each alternative is a land use plan that would provide a framework within which future, more site-specific decisions would be made, such as directing the management intensity of various resources, developing activity plans (grazing management plans, habitat management plans, and wilderness area management plans), or issuing rights-of-way, leases, or permits. The five alternatives are summarized as follows.

Alternatives and Their Consequences

PROPOSED ACTION

This alternative provides for a balanced level of production while protecting important resource values. The goal of this alternative is to meet statutory requirements and policy commitments and to resolve the issues in a manner that is cost efficient, that is based on sound resource management and biological principles, and that prevents any significant impairment of the land's productivity and products. This alternative recommends portions of four WSAs (189,750 acres) as suitable for wilderness designation.

Consequences

The *Proposed Action* would result in a two percent increase (1,376 AUMs) from the current authorized grazing preference (from 60,524 to 61,900 AUMs). Long-term increases in available forage would be the result of new rangeland developments in previously unused or lightly grazed areas. These developments would cost approximately $371,345 for construction and materials. Slight improvement in rangeland condition and trend would occur in the long term as a result of new rangeland developments, rangeland monitoring studies, and adjustments in grazing use when studies indicate a need for adjustments.

Under this alternative livestock operators would receive a slight economic benefit. Net revenues and ranch values would increase slightly for medium and large ranches, whereas no changes would occur on small ranches.

Wilderness designation of portions of four WSAs (189,750 acres) would ensure preservation of wilderness and related cultural, botanical, wildlife, scenic, and recreation values. The remaining eight WSAs and portions of four proposed WSAs would be released by Congress from wilderness study and would revert to other multiple use management. Wilderness designation would ensure protection of 147,090 acres of desert bighorn sheep habitat and 10,520 acres of desert tortoise habitat. Designation would also benefit cultural resources because 103,815 acres likely to contain cultural resources would be protected.

The lands program proposed to dispose of 73,123 acres of isolated parcels of land that are difficult and uneconomical to manage. In addition, 36,845 acres of private and state lands proposed for acquisition would benefit wildlife, botanical, and wilderness values. Designation of 10 utility corridors would be beneficial to wildlife, botanical, cultural, and watershed resources by providing approved routes for new powerlines or pipelines.

Minerals and energy exploration and development would be adversely impacted by closing portions of four WSAs (189,750 acres) to mineral entry, mineral leasing, and oil and gas leasing. In addition, 199 mining claims

within the four WSAs would be affected by wilderness designation.

Off-road vehicle use would be restricted on 189,750 acres of the four WSAs proposed for wilderness designation.

NO ACTION

This alternative is the current management direction, assuming no changes in policy or funding. It provides a baseline for comparision with other alternatives. There would be no areas recommended for wilderness designation. Currently, the Lower Gila South RMP/EIS Area lacks formal management direction established through an approved land use plan.

Consequences

The *No Action* alternative would not impact livestock operations within the RMP/EIS area. No change in stocking rates are proposed and livestock grazing would continue at present levels. Current trends in rangeland condition would eventually stabilize. Areas currently overused by livestock would reduce the ability of the rangeland to produce forage to sustain present grazing levels. As palatable forage decreases, so would livestock performance. The overall quantity and quality of the vegetation produced on public lands would remain essentially unchanged on some sites, and in the long term would decline slightly on others.

The financial situation depicted by the typical ranch budgets is expected to continue. No changes would occur in ranch values or with the rancher's ability to borrow operating and long-term capital.

The *No Action* alternative would have adverse affects on wildlife habitat values in the long term. Nondesignation of 12 WSAs would preclude the protection of habitat for two threatened and endangered species (desert bighorn sheep and desert tortoise). Other wildlife habitat conditions would continue along existing trends and would decline in some instances as in the case of the Sonoran pronghorn habitat in the Ajo area. Protection for high botanical values within the 12 WSAs would also be lost.

Cultural resources could be adversely impacted in the long term because they would not be afforded the added protection of wilderness designation. Surface-disturbing projects would be allowed in the 12 WSAs and might degrade important cultural resource values.

The lands program would not be impacted by this alternative. No lands would be proposed for acquisition or disposal, and all land actions would be handled on a case-by-case basis. No utility corridors would be designated, and BLM would handle requests for powerlines and pipelines on a case-by-case basis.

No impacts to mineral and energy exploration and development or to ORV use would result from the *No Action* alternative.

RESOURCE PRODUCTION

This alternative emphasizes increased production and development of resources that would contribute to the economy of the region. Environmental values would be protected to the extent required by laws, regulations, and policies. The issues would be resolved in a manner that would place highest priority on livestock forage utilization, leaving all areas open to mineral development and oil and gas leasing. There would be no areas recommended for wilderness designation.

Consequences

The *Resource Production* alternative initially reduces livestock grazing by 10 percent from the authorized grazing preference (from 60,524 AUMs to 54,315 AUMs). This would have slight impacts to some livestock operators in the short term but would not be significant. In the long term a six percent (4,023 AUMs) increase over the authorized preference (60,524 AUMs) would result from the implementation of eight allotment management plans involving 531,400 acres of public land.

Rangeland vegetation would benefit from implementation of the eight AMPs. Initial reductions would improve vigor of preferred forage plants. In the long term vegetation would improve the most on allotments with AMPs.

This alternative would be financially beneficial to livestock operators in the medium and large ranch classes. Long-term losses would result for the small ranch operators.

Wilderness and associated values could potentially be degraded without the wilderness designation of the 12 WSAs. Wildlife habitat (desert bighorn sheep, desert tortoise, and Sonoran pronghorn) would improve slightly on the eight allotments with implemented AMPs. The degree of benefit would depend on the contents of the proposed AMPs. Cultural resources could be adversely impacted in the long term because they will not be afforded the additional protection provided by wilderness designation. Surface-disturbing projects would be allowed in the 12 WSAs and might degrade important cultural resources.

As under the *Proposed Action*, this alternative proposes to dispose of 73,123 acres of isolated parcels that are difficult and uneconomical to manage. In addition, acquisition of 22,842 acres of private and state lands would benefit wildlife and botanical values. Designation of 10 utility corridors would also benefit wildlife,

botanical, cultural, and watershed resources by providing established routes for new powerlines and pipelines.

All 12 WSAs would remain open for mineral and energy exploration and development and for ORV use under the *Resource Production* alternative.

RESOURCE PROTECTION

The *Resource Protection* alternative emphasizes protection and enhancement of other resources such as cultural, botanical, wildlife, and wilderness while implementing a lower level of livestock grazing. Mineral and energy exploration would be allowed only to the extent that it is compatible with resource protection. The objectives of this alternative are to facilitate the improvement and recovery of wildlife habitat on 16 allotments where wildlife and livestock compete for forage. Special emphasis would also be placed on the acquisition of prime mesquite and saltcedar habitat along the Gila River. Portions of seven WSAs (324,350 acres) would be recommended for wilderness designation.

Consequences

This alternative would result in significant adverse impacts to livestock operators. A 47 percent reduction from the current authorized grazing preference is proposed (from 60,524 to 31,914 AUMs). Livestock forage would improve significantly in the long term from the reduction in livestock use. Improvement would occur most rapidly in areas displaying upward apparent trends in rangeland condition and less rapidly in areas with low potential for vegetation production. Competition between livestock and wildlife would be reduced through reductions in livestock grazing use.

Economic impacts to livestock operators would be adverse under this alternative. Ranch values and net revenues would be substantially reduced. These reductions would affect the ability of livestock operators to replace equipment and pay existing debts.

Wilderness designation of portions of seven WSAs (324,350 acres) would ensure that wilderness and related values are protected from surface-disturbing projects. The remaining five WSAs and portions of the seven WSAs would be released by Congress from wilderness study and would revert to other multiple use management.

Wilderness designation of portions of seven WSAs (324,350 acres) would protect 241,170 acres of desert bighorn sheep and 17,570 acres of desert tortoise habitat. Approximately 45 percent or 145,513 acres likely to contain cultural resources would also be protected by wilderness designation under this alternative.

As under the *Proposed Action* the lands program proposes to dispose of 73,123 acres of isolated parcels that are difficult and uneconomical to manage. In addition, acquisition of 42,505 acres of private and state lands would benefit wildlife, botanical, cultural, and wilderness values. The designation of 10 utility corridors would conflict with about five miles of the Eagletail Mountains WSA.

Minerals and energy exploration and development would be adversely impacted by closing portions of seven WSAs (324,350 acres) to mineral entry, mineral leasing, and oil and gas leasing. In addition, 666 mining claims within designated wilderness would be affected.

ORV use would be restricted on portions of the seven WSAs (324,350 acres) proposed for wilderness designation.

ENVIRONMENTAL PROTECTION

This alternative would eliminate livestock grazing in the Lower Gila South RMP/EIS area and analyzes the impacts of removing livestock from public lands. All other issues, except wilderness, would be resolved the same as in the *Resource Protection* alternative. This alternative recommends all 12 WSAs (607,557 acres) as suitable for wilderness designation.

Consequences

Livestock operators would be adversely impacted by cancellation of all grazing privileges on public lands within the Lower Gila South RMP/EIS area. The livestock industry would lose 60,524 AUMs of livestock forage annually. Eliminating livestock grazing in this alternative would be beneficial to the vegetation resources. Livestock forage would improve in vigor and production and established seeding. All livestock-wildlife conflicts would be eliminated.

Livestock operators in the Lower Gila South RMP/EIS area would no longer be able to remain in business under this alternative. In addition, livestock operators who owe money on their ranch operations would be encumbered with no income available to repay their debts.

Designating 12 WSAs (607,557 acres) would have short- and long-term beneficial impacts on wilderness and associated resource values (botanical, cultural, wildlife, and watershed). Some manageability problems might result from development of nonfederal inholdings and valid mining claims and motorized vehicle use.

Wildlife habitat would benefit significantly from this alternative. In addition, 373,850 acres of bighorn sheep habitat and 46,770 acres of desert tortoise habitat would be protected from surface-disturbing activities by the designation of 12 WSAs.

Cultural resources would benefit significantly by wilderness designation of 12 WSAs. Approximately 218,560 acres likely to contain cultural resources would be protected as a result of this alternative.

The lands program proposes to dispose of 73,123 acres of isolated parcels that are difficult and uneconomical to manage. In addition, 47,198 acres of private and state lands proposed for acquisition would benefit wildlife, botanical, and wilderness values. The designation of 10 utility corridors under this alternative would result in conflicts with 59.5 miles of eight WSAs proposed for wilderness designation.

This alternative would have significant adverse impacts on mineral and energy exploration and development by closing 607,557 acres within 12 WSAs to mineral entry, mineral leasing, and oil and gas leasing. In addition, 3,152 mining claims within the 12 WSAs would be affected.

Table 2-3, located at the end of Chapter 2 of this document, summarizes impacts by resource and by alternative.

Chapter 1

PURPOSE AND NEED

CHAPTER 1

PURPOSE AND NEED

Introduction

The Lower Gila South Resource Management Plan/Environmental Impact Statement (RMP/EIS) is being prepared to provide a comprehensive framework for managing and allocating public land and resources in BLM's Lower Gila South RMP/EIS Area in southwestern Arizona.

The contents of this RMP/EIS are focused on resolving key issues that were developed through public input. The issue identification and public participation phases for this document began in November 1980 with mailouts and public meetings and continued through June 1983 when writing of this document began. (See Chapter 5, Scoping and Public Participation, for specific details.)

Several statutory or court-ordered requirements will be met when the decisions proposed in this plan are approved. As required under Section 603 of the Federal Land Policy and Management Act of 1976 (FLPMA), this document analyzes preliminary wilderness suitability recommendations for 12 wilderness study areas (WSAs). For these WSAs only, the RMP/EIS will preliminarily recommend whether they are suitable or nonsuitable for inclusion in the National Wilderness Preservation System (NWPS). These recommendations will be reported through the Director of the Bureau of Land Management (BLM) to the Secretary of the Interior and to the President. Designation of an area as wilderness can only be made by Congress.

This RMP/EIS also analyzes alternatives for livestock grazing on public land, as required under a court-ordered agreement based on a 1973 lawsuit filed against BLM by the Natural Resource Defense Council (NRDC).

This document will address possible future management of the area for the next 10 or more years. When necessary, revisions will be made to the RMP to keep it current with resource management needs and policies.

Setting

The Lower Gila South RMP/EIS area is in the Lower Gila Resource Area in southwestern Arizona. It includes portions of Maricopa, Pinal, Pima, Yuma, and La Paz Counties. BLM has management responsibilities on approximately 2,009,232 surface acres and 1,946,485 acres of subsurface minerals.

The primary economic uses of lands in the RMP/EIS area are agriculture, livestock grazing, mining, and recreation. There are 12 wilderness study areas (WSAs) within the Lower Gila South RMP/EIS boundaries.

Except for approximately 63,000 acres along the Fred J. Weiler Green Belt (Gila River) most of the public lands in the area are in consolidated blocks. Population centers include Buckeye, Gila Bend, and Ajo. Phoenix is the major population center nearest to the RMP/EIS area.

Planning Process Overview

BLM's planning process, as described in 43 CFR 1600, involves nine action steps and requires using an interdisciplinary team for the completion of each step. The Lower Gila South RMP Action Steps listed below are described in detail in Appendix 1.1

1. Inventory Data and Information Collection
2. Identification of Issues
3. Development of Planning Criteria
4. Analysis of Management Situation
5. Formulation of Alternatives
6. Estimation of Effects of Alternatives
7. Selection of the Preferred Alternative
8. Selection of the Resource Management Plan
9. Monitoring and Evaluation

The Lower Gila South RMP/EIS is designed to resolve four of the five public issues and BLM management concerns. One issue, the Fred J. Weiler Green Belt, will be resolved through a management plan developed in cooperation with the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, and BLM.

The five planning issues (rangeland management, wilderness, land tenure, utility corridors, and the Fred J. Weiler Green Belt) were identified based on input from public land users, assigned BLM interdisciplinary team specialists, and city, county, state, and other federal government agencies. These issues were then reviewed by BLM managers. Responses to the issue

identification step were obtained through public meetings and brochure mailings to help identify the five major issues of concern. The issues have been examined and alternative ways to resolve the issues have been developed.

Issues Analyzed

These specific issues resulted from public input at scoping meetings, from brochure mailings, from BLM resource specialists, and input from other government agencies. The following is a brief description of the issues analyzed in Chapter 4.

ISSUE 1: RANGELAND MANAGEMENT

The Lower Gila South RMP/EIS area has 48 grazing allotments on public land. Present rangeland management actions need to be reviewed in order to balance resource use opportunities and to aid in stabilizing the livestock industry through management actions. Rangeland developments, level of management, and results of monitoring studies are needed to improve trends in rangeland condition and/or maintain good rangeland conditions. Resolution of these issues should satisfy the requirement of the court-ordered agreement between BLM and the Natural Resource Defense Council (NRDC).

ISSUE 2: WILDERNESS

The Federal Land Policy and Management Act (FLPMA) of October 21, 1976, directed BLM to inventory, study, and then report to Congress (through the Secretary of the Interior and the President) the public lands suitable for inclusion into the National Wilderness Preservation System (NWPS).

As required by Section 603(a) of FLPMA, this resource management plan analyzes for wilderness suitability the 12 wilderness study areas (WSAs) in the Lower Gila South RMP/EIS area (Table 1-1 and Map 1-1). For these WSAs, the RMP will make only preliminary recommendations as to whether they are suitable or nonsuitable for inclusion in the NWPS. Needed resolutions include:

- Which WSAs or portions of WSAs should be recommended to Congress as suitable for inclusion in the NWPS?
- Which WSAs or portions of WSAs should be recommended to Congress as nonsuitable for wilderness designation?
- How will areas not designated wilderness be managed?
- What are the environmental impacts of nondesignation on wilderness values?
- What identified or potential mineral and energy resource values could be forgone or adversely affected by wilderness designation?
- What other resource uses or values could be forgone or adversely affected by wilderness designation?
- What resources will benefit from wilderness designation?
- What are the local social and economic impacts of designation?

TABLE 1-1
WILDERNESS STUDY AREAS--LOWER GILA SOUTH RMP/EIS
Bureau of Land Management, Phoenix District, Arizona

WSAs	Unit Numbers	Acreage
New Water Mountains	AZ-020-125	40,375
Little Horn Mountains West	AZ-020-126A	12,660
Little Horn Mountains	AZ-020-127	90,430
Eagletail Mountains	AZ-020-128	117,065
East Clanton Hills	AZ-020-129	36,560
Face Mountain	AZ-020-136	27,575
Signal Mountain	AZ-020-138	19,640
Woolsey Peak	AZ-020-142/144	73,930
North Maricopa Mountains	AZ-020-157	70,468
South Maricopa Mountains	AZ-020-163	71,320
Butterfield Stage Memorial	AZ-020-164	9,566
Table Top Mountains	AZ-020-172	37,968
TOTAL		607,557

SOURCE: Phoenix District files

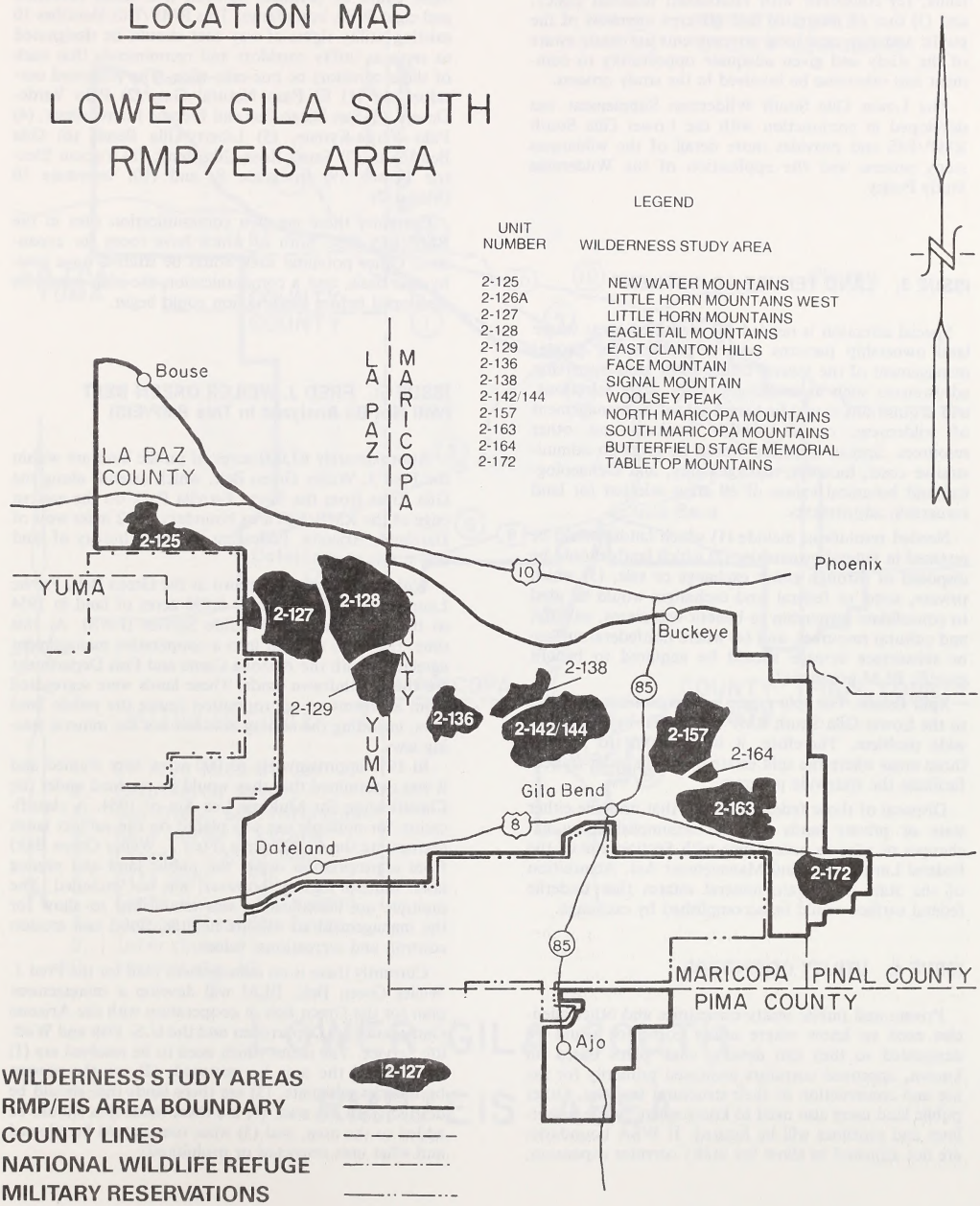
A separate final wilderness legislative EIS and wilderness study report will be prepared as a result of the RMP/EIS planning effort. These documents will be forwarded to Washington, D.C. for review by the BLM Director and the Secretary of the Interior before the recommendations in this plan are submitted to the President and Congress.

BLM has set the end of fiscal year 1986 for completing wilderness studies and reporting wilderness suitability recommendations to the Secretary of the Interior. FLPMA requires the Secretary of the Interior to report his recommendations to the President by October 21, 1991, and the President has until October 21, 1993, to send his recommendations to Congress. Only Congress can designate a WSA as wilderness, but Congress has set no time limit for acting on the President's recommendations.

The wilderness proposals described in this RMP/EIS result from the application of BLM's Wilderness Study Policy (Federal Register, 47:23, February 3, 1982) during the preparation of the Lower Gila South Management Situation Analysis (MSA). The Wilderness Study Policy directed BLM to apply certain criteria and quality standards to each WSA to ensure that wilderness suitability recommendations are (1) based on full consideration of all multiple resource values of public

LOCATION MAP

LOWER GILA SOUTH RMP/EIS AREA



lands, (2) consistent with established national policy, and (3) that all interested and affected members of the public and state and local governments are made aware of the study and given adequate opportunity to comment and otherwise be involved in the study process.

The Lower Gila South Wilderness Supplement was developed in conjunction with the Lower Gila South RMP/EIS and provides more detail of the wilderness study process and the application of the Wilderness Study Policy.

ISSUE 3: LAND TENURE ADJUSTMENT

Special attention is needed for identified areas where land ownership patterns pose a problem for proper management of the federal lands. Some land ownership adjustments such as exchanges, sales, state selections, and acquisitions would be beneficial to the management of wilderness, crucial wildlife habitat, and other resources. Special attention would be given to administrative costs, location, manageability, and archaeological and botanical values of all areas selected for land ownership adjustments.

Needed resolutions include (1) which lands should be retained in federal ownership, (2) which lands should be disposed of through either exchange or sale, (3) which private, state, or federal land exchanges would be used to consolidate ownership to benefit wilderness, wildlife, and cultural resources, and (4) where nonfederal surface or subsurface acreage should be acquired to benefit specific BLM programs?

Split Estate. The split estate issue is one not confined to the Lower Gila South RMP/EIS Area, but is a statewide problem. Therefore, it is important to identify those areas where the split estate occurs in order to help facilitate the statewide program.

Disposal of those federal minerals that underlie either state or private lands may be accomplished by exchanges or sales in accordance with Section 209 of the Federal Land Policy and Management Act. Acquisition of the state or private mineral estates that underlie federal surface would be accomplished by exchange.

ISSUE 4: UTILITY CORRIDORS

Private and public utility companies and other agencies need to know where utility corridors would be designated so they can develop their plans based on known, approved corridors dedicated primarily for the use and construction of their structural facilities. Other public land users also need to know where future powerlines and pipelines will be located. If WSA boundaries are not adjusted to allow for utility corridor expansion, there could be conflicts between five utility corridors and eight WSA boundaries. This RMP/EIS identifies 10 existing utility rights-of-way that should be designated to serve as utility corridors and recommends that each of these corridors be one-mile-wide. The proposed corridors are (1) El Paso Natural Gas, (2) Palo Verde-Devers, (3) San Diego Gas and Electric Interconnect, (4) Palo Verde-Kyrene, (5) Liberty-Gila Bend, (6) Gila Bend-Ajo, (7) Santa Rosa-Gila Bend, (8) Tucson Electric Power, (9) Interstate 8, and (10) Interstate 10 (Map 1–2).

Currently there are two communication sites in the RMP/EIS area, both of which have room for expansion. Other potential sites would be studied on a case-by-case basis, and a communication site plan would be developed before construction could begin.

ISSUE 5: FRED J. WEILER GREEN BELT (Will Not Be Analyzed In This RMP/EIS)

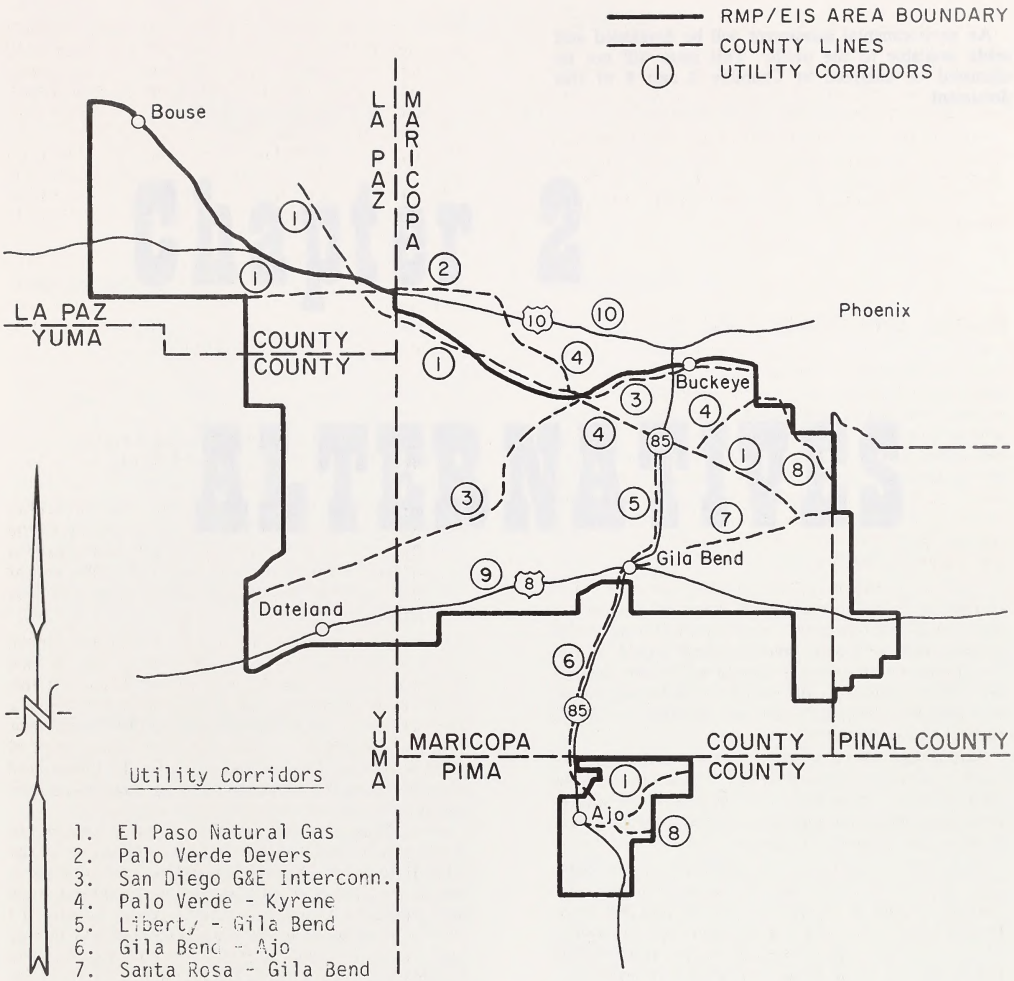
Approximately 63,000 acres of public land are within the Fred J. Weiler Green Belt, which extends along the Gila River from the Sierra Estrella Park on the eastern edge of the RMP/EIS area boundary to 12 miles west of Dateland, Arizona. Following is a brief history of land use in this area.

Within the area now known as the Green Belt, Public Land Order 1015 withdrew 6,896 acres of land in 1954 to the U.S. Fish and Wildlife Service (FWS). At this time, the FWS entered into a cooperative management agreement with the Arizona Game and Fish Department for these withdrawn lands. These lands were segregated from all forms of appropriation under the public land laws, including the mining laws but not the mineral leasing laws.

In 1970 approximately 63,000 acres were studied and it was determined that they would be retained under the Classification for Multiple Use Act of 1964. A classification for multiple use was placed on the subject lands segregating the 63,000 acres (Fred J. Weiler Green Belt) from appropriation under the public land and mining laws. Mineral leasing, however, was not excluded. The multiple use classification was established to allow for the management of wildlife habitat, flood and erosion control, and recreational values.

Currently there is no management plan for the Fred J. Weiler Green Belt. BLM will develop a management plan for the Green Belt in cooperation with the Arizona Game and Fish Department and the U.S. Fish and Wildlife Service. The issues which need to be resolved are (1) how should the area be managed, (2) are the present boundaries adequate, (3) are there lands that should be deleted from the area, (4) are there lands that should be added to the area, and (5) what uses should be allowed and what uses restricted or prohibited?

MAP 1-2



LOWER GILA SOUTH RMP/EIS AREA

An environmental assessment will be developed and made available to the public. This issue will not be discussed or analyzed in Chapters 2 and 4 of this document.

Chapter 2

ALTERNATIVES

CHAPTER 2

DESCRIPTION OF THE ALTERNATIVES

Introduction

Chapter 2 describes in detail five alternatives, including the *Proposed Action*. These alternatives have been developed to resolve the issues that were identified in Chapter 1. The main purpose of this chapter is to identify the various combinations of public land uses and resource management practices that respond to the five major planning issues. All the alternatives will be described in relation to long-term impacts, except where impacts are noted as short-term. The short term would cover the five years after the filing of the final RMP, and the long term would cover the 25 years following the implementation of an action. The alternatives are the *Proposed Action, No Action, Resource Production, Resource Protection,* and *Environmental Protection.*

Alternative Formulation

Both the National Environmental Policy Act (NEPA) regulations and the BLM resource management planning regulations require the formulation of alternatives. Each alternative represents a complete and reasonable plan to guide future management of public lands and resources. One alternative must represent no action, which means a continuation of present levels of resource use. The other alternatives must provide a range of choices from resource protection to resource production.

The basic goal in formulating alternatives is to identify combinations of public land uses and resource management practices that respond to the issues.

Alternatives to resolve the five issues were formed around five general themes: proposed action, no action, full multiple use consideration (resource production), resource protection, and environmental protection (this is the no livestock grazing alternative with all 12 WSAs recommended for designation).

Issues dictated the way in which alternatives were formulated. Those lands, resources, and programs not affected by the resolution of any issue will be managed in the future essentially as they are at present. Future changes will be permitted based on a case-by-case analysis and in accordance with applicable laws, regulations, and policies.

Proposed Action

The *Proposed Action* provides for a balanced level of production while protecting important resource values. The goal of this alternative is to meet statutory requirements and policy commitments and to resolve the issues in Chapter 1 in a manner that is cost efficient, is based on sound management and biological principles, prevents any significant impairment of the land's productivity, and protects the wilderness values on 189,750 acres recommended for designation.

RANGELAND MANAGEMENT ISSUE

Level of Grazing Management. The *Proposed Action's* grazing management objectives would be to maintain ecological rangeland condition currently in good to excellent condition and to improve those areas in poor to fair condition. BLM would not initially adjust livestock numbers on the 22 perennial-ephemeral allotments and eight perennial-ephemeral grazing leases. Authorized grazing use on the perennial-ephemeral allotments would remain at 60,524 AUMs on 1,592,278 acres. In addition, supplemental permits could be issued if sufficient ephemeral forage were known to exist and there were no conflicts with other resources. The remaining 18 allotments are designated as ephemeral allotments and do not have grazing preferences (AUMs) attached to them (Appendix 2). The 18 ephemeral allotments (416,954 acres) would continue to be administered in accordance with the Special Ephemeral Rule (*Federal Register*, Vol. 33, No. 238, December 7, 1968). For allotment categorizations, see Management Guidance Common to all Alternatives in this chapter.

Rangeland Developments. Objectives for new rangeland developments would be to improve livestock distribution and the trend in rangeland condition. Improvement and maintenance of the rangeland would be accomplished through the construction of new rangeland developments (see Table 2–1) and through livestock adjustments if needed. Environmental assessments for specific developments would be prepared and approved before implementation to assure that all resources are adequately considered. The following rangeland developments would be constructed to implement the *Proposed Action*: 47 miles of fence, 10 reservoirs, and seven wells. Total cost of construction of

TABLE 2-1
PROPOSED RANGELAND DEVELOPMENTS
Bureau of Land Management, Phoenix District, Arizona

PROPOSED ACTION					
Allotment Number	Name	Category	Reservoirs	Wells (Equipped)	Fence (Miles)
3007	Beloat	Maintain	--	1	15
3009	Bighorn	Maintain	--	1	7
3013	Cameron	Maintain	--	--	5
3016	Childs	Maintain	1	--	--
3017	Clem	Custodial	--	--	--
3018	Conley	Custodial	2	--	--
3020	Coyote Flat	Custodial	--	--	--
3022	Crowder-Weisser	Maintain	2	1	--
3028	Eagle Tail	Maintain	1	1	7
3032	Gable-Ming	Custodial	--	--	--
3035	Gila Bend Indians	Custodial	--	--	--
3039	Hansen	Custodial	--	--	--
3042	Hazen	Maintain	--	1	--
3046	Kirian	Maintain	1	--	--
3047	Ranegras Plain	Maintain	--	--	--
3053	Lower Vekol	Custodial	--	--	--
3076	Sentinel	Maintain	--	1	--
3080	South Vekol	Maintain	1	--	13
3083	Table Top	Maintain	--	1	--
3085	Vekol	Maintain	1	--	--
3086	Ward	Custodial	1	--	--
3091	Why	Custodial	--	--	--
TOTALS			10	7	47

RESOURCE PRODUCTION ALTERNATIVE					
Allotment Number	Name	Category	Reservoirs	Wells (Equipped)	Fence (Miles)
3007	Beloat	Maintain	--	1	15
3009	Bighorn	Maintain	--	1	7
3013	Cameron	Maintain	--	1	5
3016	Childs	Maintain	--	--	--
3017	Clem	Custodial	--	--	--
3018	Conley	Custodial	2	--	--
3020	Coyote Flat	Custodial	--	--	--
3022	Crowder-Weisser	Maintain	2	1	--
3028	Eagle Tail	Maintain	2	2	12
3032	Gable-Ming	Custodial	1	--	--
3035	Gila Bend Indians	Custodial	--	--	--
3039	Hansen	Custodial	1	--	--
3042	Hazen	Maintain	1	1	5
3046	Kirian	Maintain	1	--	--
3047	Ranegras Plain	Maintain	--	--	10
3053	Lower Vekol	Custodial	--	--	--
3076	Sentinel	Maintain	--	1	--
3080	South Vekol	Maintain	1	1	13
3083	Table Top	Maintain	--	1	--
3085	Vekol	Maintain	1	--	--
3086	Ward	Custodial	--	--	--
3091	Why	Custodial	--	--	--
TOTALS			12	10	67

SOURCE: Phoenix District grazing files

Rangeland Developments Are Needed To Improve Livestock Distribution

Well maintained and properly located rangeland developments such as these are essential for livestock grazing management. BLM cooperates in constructing and maintaining different types of rangeland developments.

these rangeland developments would amount to approximately $371,345. Procedures for authorizing and maintaining rangeland developments are discussed in this chapter under Management Guidance Common to All Alternatives.

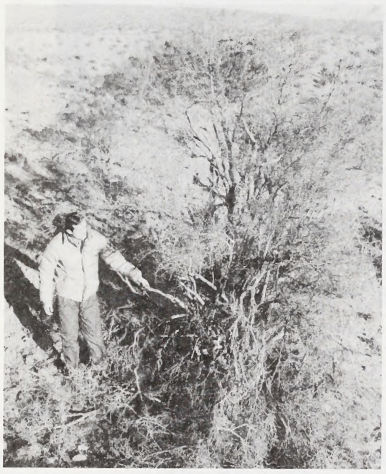
Rangeland Monitoring. The Lower Gila Monitoring Plan (on file at the Lower Gila Resource Area Office) would provide guidance for all allotments to be monitored in the RMP/EIS area. Needed adjustments in livestock numbers would be based on the results of up to five years of rangeland monitoring data. Upward adjustments would only be authorized if five years of monitoring showed a sustained yield of forage production and only if other resources were considered. If monitoring shows that a reduction is needed, the adjustment would be implemented over a five-year period through a signed agreement or by a decision (see Management Guidance Common to all Alternatives—Rangeland Monitoring Section). Monitoring will be more intensive on Maintain allotments and allotments indicating high browse use and less intensive on Custodial allotments.

At a minimum, the monitoring studies would include actual yearly livestock use, forage utilization, trend in rangeland condition, and precipitation data. Actual livestock use figures supplied by the operators would be the foundation for grazing management adjustments. Rangeland specialists would evaluate condition and trend studies every three to five years to determine if conditions were improving, declining, or stable. Trend would be measured using plant frequency and cover data, and this data would be correlated to rangeland condition and compared with previous years' figures. BLM would also design studies to ensure that wildlife habitat management objectives were being met. Special emphasis would be placed on monitoring approximately 63,000 acres of riparian habitat along the Gila River (Green Belt).

Implementation. BLM would begin thorough consultation with livestock operators, affected landowners, and federal, state, and local agencies after completion of the final RMP/EIS.

After the filing of the final RMP/EIS, BLM would prepare a burro capture plan in consultation with appropriate government agencies and interest groups. All burros would be removed from the Painted Rock Reservoir area. Details for the burro capture program would be outlined in a herd management area plan (HMAP).

Normally a five-year monitoring period is required before any adjustments in livestock numbers are implemented. However, if two or three years of monitoring data, solely or in combination with the rangeland inventory data, indicate a change is necessary, adjustments would be implemented through a decision or by an agreement issued by the Lower Gila Resource Area Manager.



Uncontrolled Wild Burro Populations Can Damage Vegetation

Rapidly expanding wild burro populations compete with wildlife and livestock for food. When preferred forage plants are eaten up, the burros turn to less palatable trees and shrubs, eating the tender layers under the bark of the branches. Not only do burros eat the current year's growth, but they destroy years of production and kill or stunt plants. A paloverde tree pictured above has been severely impacted by burro use.

WILDERNESS ISSUE

The *Proposed Action* would designate as wilderness portions of the New Water Mountains, Eagletail Mountains, Woolsey Peak, and Table Top Mountains WSAs (totaling 189,750 acres). These areas would be managed to preserve their naturalness, solitude, and primitive recreation opportunities in accordance with BLM's Wilderness Management Policy and the Wilderness Act of 1964. A wilderness management plan would be developed and implemented for each area following wilderness designation by Congress.

Eight entire WSAs and portions of the four remaining WSAs would not be designated wilderness. The lands not designated (417,807 acres) would be released from the wilderness review process. After release by Congress, these lands would be managed according to provisions in the approved Lower Gila South RMP and would return to other multiple use management (see Glossary). Suitable and nonsuitable acreage for each WSA and the surface and mineral rights recommended for acquisition through land exchange are described in Table 2-2.

Acquisition through land exchange of 2,643 acres of surface and mineral lands and 561 acres of nonfederal mineral rights within the Eagletail Mountains WSA would facilitate wilderness management and enhance wilderness and related values. Acquisition of nonfederal mineral estate would allow BLM-administered surface lands above such parcels to be incorporated into the proposed wilderness.

LAND TENURE ISSUE

Disposal (Exchange or Sale). Approximately 73,123 acres of public land within the RMP/EIS area have been proposed for disposal. Most of these lands are isolated parcels that are difficult and uneconomical to manage. Additionally, some of these parcels are well suited for community expansion, agricultural development, and management by the Arizona State Land Department.

Lands recommended for disposal would be retained if significant resource values were found or if it was determined that they did not meet the sale or exchange criteria outlined in the Federal Land Policy and Management Act (FLPMA). These determinations would be made during the development of the environmental assessment and land report that is required on every disposal action.

These lands would be made available through state and private exchanges and sales (including recreation and public purpose patents and state selections). Land exchanges would be the preferred method of disposal.

TABLE 2-2
WSA RECOMMENDATIONS BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

WSA	Public Land Acres: Suitable Acres	Public Land Acres: Nonsuitable Acres	Recommended Land Acquisition*: Surface and Mineral Ownership	Recommended Land Acquisition*: Mineral Estate Only
PROPOSED ACTION				
New Water Mountains	24,120	16,255	0	0
Little Horn Mountains West	0	12,660	0	0
Little Horn Mountains	0	90,430	0	0
Eagletail Mountains	70,230	46,835	2,643	561
East Clanton Hills	0	36,560	0	0
Face Mountain	0	27,575	0	0
Signal Mountain	0	19,640	0	0
Woolsey Peak	61,000	12,930	0	0
North Maricopa Mountains	0	70,468	0	0
South Maricopa Mountains	0	71,320	0	0
Butterfield Stage Memorial	0	9,566	0	0
Table Top Mountains	34,400	3,568	0	0
TOTALS	189,750	417,807	2,643	561
NO ACTION AND RESOURCE PRODUCTION ALTERNATIVES				
New Water Mountains	0	40,375	0	0
Little Horn Mountains West	0	12,660	0	0
Little Horn Mountains	0	90,430	0	0
Eagletail Mountains	0	117,065	0	0
East Clanton Hills	0	36,560	0	0
Face Mountain	0	27,575	0	0
Signal Mountain	0	19,640	0	0
Woolsey Peak	0	73,930	0	0
North Maricopa Mountains	0	70,468	0	0
South Maricopa Mountains	0	71,320	0	0
Butterfield Stage Memorial	0	9,566	0	0
Table Top Mountains	0	37,968	0	0
TOTALS	0	607,557	0	0
RESOURCE PROTECTION ALTERNATIVE				
New Water Mountains	24,120	16,255	0	0
Little Horn Mountains West	0	12,660	0	0
Little Horn Mountains	49,940	40,490	440	520
Eagletail Mountains	88,660	28,405	2,643	1,601
East Clanton Hills	0	36,560	0	0
Face Mountain	26,390	1,185	0	0
Signal Mountain	0	19,640	0	0
Woolsey Peak	61,000	12,930	0	0
North Maricopa Mountains	39,840	30,628	0	1,280
South Maricopa Mountains	0	71,320	0	0
Butterfield Stage Memorial	0	9,566	0	0
Table Top Mountains	34,400	3,568	0	0
TOTALS	324,350	283,207	3,083	3,401
ENVIRONMENTAL PROTECTION ALTERNATIVE				
New Water Mountains	40,375	0	0	520
Little Horn Mountains West	12,660	0	(40)	1,240
Little Horn Mountains	90,430	0	1,360	1,400
Eagletail Mountains	117,065	0	4,836	2,561
East Clanton Hills	36,560	0	0	40
Face Mountain	27,575	0	0	0
Signal Mountain	19,640	0	0	1,280
Woolsey Peak	73,930	0	0	0
North Maricopa Mountains	70,468	0	(160)	4,960
South Maricopa Mountains	71,320	0	0	800
Butterfield Stage Memorial	9,566	0	0	0
Table Top Mountains	37,968	0	0	1,280
TOTALS	607,557	0	6,396	14,081

* All parcels recommended for acquisition through exchange are State of Arizona lands, except parcels in parentheses that are privately owned.
SOURCE: Phoenix District Office files

Appendix 3 shows the legal description of those lands that are proposed for disposal. Table 2-3 shows a summary of recommended disposal lands by alternative.

TABLE 2-3
SURFACE ACREAGE SUITABLE FOR DISPOSAL BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Proposed Action	No Action	Resource Production	Resource Protection	Environmental Protection
73,123	0	73,123	73,123	73,123

SOURCE: Phoenix District maps and files

Acquisition. Approximately 36,845 acres of non-public lands have been identified for acquisition. Acquisition of these lands would benefit wildlife, botanical, wilderness, and multiple use values. Appendices 4 through 8 list the benefiting resource programs and the legal descriptions of the lands to be acquired. Table 2-4 shows a summary of acres recommended for acquisition by alternative and the benefiting resource or program.

TABLE 2-4
ACREAGE SUITABLE FOR ACQUISITION BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Benefiting Resource or Program	Proposed Action	No Action	Resource Production	Resource Protection	Environmental Protection
Wilderness	2,643	0	0	3,083	6,276
Wildlife	11,120	0	2,200	16,340	17,840
Botanical	2,440	0	0	2,440	2,440
Multiple Use	20,642	0	20,642	20,642	20,642
		0			
TOTAL	36,845	0	22,842	42,505	47,198

SOURCE: Phoenix District files

Split Mineral Estate. The split mineral estate problem must be resolved by a statewide program. In the Lower Gila South RMP/EIS area there are approximately 23,645 acres of federal minerals that underlie either state or private lands and approximately 112,160 acres of federal surface estate where the underlying minerals are owned by either state or private interests. This situation causes confusion and creates problems with the individual or agency owning or managing the surface estate. Therefore, it is recommended that BLM acquire approximately 112,160 acres of state and private mineral estate and dispose of approximately 23,645 acres of federal minerals that underlie state or privately owned surface estates. The mineral estate to be acquired is shown in Appendix 9, and the mineral estate to be disposed of is shown in Appendix 10.

UTILITY CORRIDOR ISSUE

Over the past 10 years there has been an increase in major utility systems within the RMP/EIS area. This increase is largely because of the Palo Verde Nuclear Generating Station (PVNGS) that lies in the northeastern portion of the area. Because ownership of the PVNGS is divided among Arizona, California, New Mexico, and Texas utility companies, there is a need for transmission systems to accommodate the out-of-state owners. Other interstate systems include two interstate highways and oil and gas pipelines. Along with the interstate systems there are also various intrastate systems that affect the RMP/EIS area.

In order to accommodate the existing systems and provide for the orderly development of future systems, the *Proposed Action* would designate 10 corridors (each one-mile-wide) (see Map 1-2). This would provide space for construction of future utility projects and allow for multiple occupancy by compatible users. Section 503 of FLPMA authorizes the formal designation of utility corridors.

No Action Alternative

The *No Action* alternative is the current management direction, assuming no changes in policy or funding, and it provides a baseline for comparison with the other alternatives. Currently, the Lower Gila South RMP/EIS area lacks formal management direction established through approved land use plans.

RANGELAND MANAGEMENT ISSUE

Level of Grazing Management. Under the *No Action* alternative, yearlong grazing would continue on 1,592,278 acres of public lands on 22 perennial-ephemeral allotments and eight perennial-ephemeral custodial leases. Livestock numbers would continue to be authorized on the perennial-ephemeral allotments and leases up to the present active preference of 60,524 animal unit months (AUMs). The remaining 18 ephemeral allotments involving 416,954 acres of public land would continue to be managed in accordance with the Special Ephemeral Rule. These allotments do not produce enough perennial forage on a sustained yield basis to issue yearlong grazing permits. On the perennial-ephemeral allotments, supplemental permits could be issued for ephemeral forage if the forage were known to exist and ephemeral grazing did not conflict with other resources.

Rangeland Developments. BLM would not construct new rangeland developments and would not maintain existing developments. Operator-built developments would be authorized by either cooperative agreements or range improvement permits on a case-by-case basis as needed to facilitate livestock management.

Implementation. Since existing grazing management would continue, a specific implementation of this alternative would not be required. BLM would develop a wild burro capture plan to remove all existing burros from the Painted Rock Reservoir Herd Management Area.

WILDERNESS ISSUE

No designated BLM wilderness areas currently exist in the RMP/EIS area. Under the *No Action* alternative none of the 12 WSAs would be designated as wilderness. All 607,557 acres (Table 2-2) would be managed under multiple use management principles with no wilderness restrictions. Subsequent management actions would be guided by laws, regulations, BLM policy, and the approved Lower Gila South RMP. This alternative represents the *No Wilderness* alternative required by BLM's Wilderness Study Policy.

LAND TENURE ISSUE

Disposal (Exchange or Sale). No lands would be proposed or offered for disposal. This in effect would require the retention of all public lands in the RMP/EIS area and no change of ownership pattern would occur (see Table 2-3).

Acquisition. Lands would not be acquired under this alternative. There would be no change in ownership pattern, and no areas would be acquired for resource enhancement (see Table 2-4).

Split Mineral Estate. There would be no changes proposed in the mineral ownership pattern in the RMP/EIS area.

UTILITY CORRIDOR ISSUE

This alternative would not propose designation of utility corridors for powerline and pipeline construction. Rights-of-way applications would be considered on a case-by-case basis.

Resource Production Alternative

This alternative emphasizes increased production and development of resources that would contribute to the economy of the region. Environmental values would be protected to the extent required by laws, regulations, and policies. The issues would be resolved in a manner that would place highest priority on livestock forage utilization, leaving all areas open to mineral development and oil and gas leasing.

RANGELAND MANAGEMENT ISSUE

Level of Management. Grazing management objectives for this alternative would be the same as the *Proposed Action*. As a result of this alternative, areas currently underutilized would become available for livestock grazing by the construction of new rangeland developments.

BLM would initially authorize 54,315 AUMs (a 10 percent reduction from the current authorized preference of 60,524 AUMs) on the 30 perennial-ephemeral allotments and leases, based on the 1980–1981 rangeland inventory survey (see Appendix 11). Allotment management plans (AMPs) would be developed on eight allotments (see Table 2-5) where potential exists for improving livestock distribution and trends in rangeland condition on approximately 531,400 acres of public land. The 18 ephemeral allotments would not change current grazing management and would continue to be managed in accordance with the Special Ephemeral Rule published in the December 1968 *Federal Register*.

TABLE 2-5
PROPOSED ALLOTMENT MANAGEMENT PLANS (AMPs)
UNDER RESOURCE PRODUCTION ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Allotment Number	Allotment Name	Allotment Number	Allotment Name
3007	Beloat	3046	Kirian
3009	Bighorn	3076	Sentinel
3013	Cameron	3080	South Vekol
3016	Clem	3083	Table Top

SOURCE: Phoenix District files

Rangeland Developments. As in the *Proposed Action*, management objectives under the *Resource Production* alternative would be to improve livestock distribution and trend in rangeland condition through the proper placement and construction of new rangeland developments. Developments proposed in this alternative would also accommodate increased numbers of livestock, if monitoring data indicated that increases were justified. Implementation of the *Resource Production* alternative would entail the following rangeland development: 67 miles of fence, 12 reservoirs, and 10 wells (Table 2-1). Total cost of construction of these rangeland developments would amount to $523,045. Procedures for authorizing and maintaining rangeland developments would be the same as those listed in the *Proposed Action*.

Rangeland Monitoring. Detailed monitoring plans would be developed for each allotment scheduled for an allotment management plan (AMP). These plans would assess the effectiveness of the rangeland developments and grazing treatments. At a minimum, monitoring

data for the perennial-ephemeral allotments would include actual use, forage utilization, trend in rangeland conditions, and precipitation data. Ephemeral allotments would be monitored through photo-points (photographs taken every other year at the same location). BLM would coordinate monitoring plans with allottees, other interested parties (universities), and other state and federal agencies.

Implementation. Implementing this alternative would require up to five years of monitoring before actual adjustments in livestock numbers would be made. Total AMPs developed under this alternative would depend on livestock operator cooperation and funds provided for rangeland developments. Priorities for AMPs would be based on (1) potential for improvement (livestock distribution and improved utilization of the range), (2) impacts on existing operations, (3) other resource requirements, and (4) economic return on investment. BLM would develop a burro capture program as in the *Proposed Action* to remove all existing wild burros from the Painted Rock Reservoir Herd Area.

WILDERNESS ISSUE

None of the 12 WSAs, involving 607,557 acres, would be designated as wilderness under the *Resource Production* alternative (Table 2-2). After release from WSA status by Congress, these areas would be managed under multiple use principles according to guidance provided by the approved Lower Gila South RMP. This alternative is identical to the *No Action* alternative.

LAND TENURE ISSUE

Disposal (Exchange or Sale). This alternative recommends disposing of the same lands that were identified under the *Proposed Action*. See Appendix 3 and Table 2-3.

Acquisition. Approximately 22,842 acres of nonpublic lands would be identified for acquisition, which would benefit wildlife and multiple use values. Appendices 4 and 5 list the benefiting resource program and the legal description of the lands to be acquired. Also see Table 2-4 for a summary of lands to be acquired.

Split Mineral Estate. Same as the *Proposed Action*.

UTILITY CORRIDOR ISSUE

Same as the *Proposed Action*.

Resource Protection Alternative

The *Resource Protection* alternative emphasizes protection and enhancement of natural resources (cultural, botanical, wildlife, and wilderness) while implementing a lower level of livestock grazing. Mineral and energy exploration would be allowed only to the extent that it is compatible with resource protection. The objectives of this alternative are to facilitate the improvement and recovery of wildlife habitat on 16 allotments (Arnold, Powers Butte, Table Top, South Vekol, Vekol, Kirian, Lower Vekol, Bighorn, Conley, Coyote Flat, Why, Cameron, Childs, Hazen, Beloat, and Eagle Tail) where wildlife and livestock compete for browse (false mesquite, jojoba, and range ratany). Special emphasis would also be placed on the acquisition of prime mesquite and saltcedar habitat along the Gila River (Green Belt).

RANGELAND MANAGEMENT ISSUE

Level of Grazing Management. This alternative proposes a 47 percent reduction in authorized livestock use over five years (from 60,524 AUMs to 31,914 AUMs) on 22 perennial-ephemeral allotments (see Appendix 11). Grazing management of the 18 ephemeral allotments and eight perennial-ephemeral grazing leases would be the same as the *Proposed Action*.

The level of livestock use in this alternative may be adjusted in the future to reflect new resource information gathered by monitoring or other studies. Allotments with the greatest potential for wildlife habitat improvement would have the first priority for livestock adjustments.

Rangeland Developments. No new rangeland developments would be proposed under this alternative, except for resource protection purposes. Construction of rangeland developments would be allowed only when other natural values—watershed, wildlife, wilderness—also benefit. Before specific developments are approved, environmental assessments would be prepared to assure that all resources were adequately considered. All rangeland developments used to facilitate livestock would be maintained by livestock operators.

Rangeland Monitoring. BLM specialists would place a higher number of monitoring plots on the 16 allotments displaying competition for forage between livestock and wildlife than on allotments with no conflicts. The remaining allotments would be monitored as described in the *Proposed Action*. Intensity of the monitoring studies would vary depending on the level of conflicts or controversy in resource use. If monitoring data show that adjustments in livestock use are needed, changes in permanent livestock use would be implemented over a period not to exceed five years.

Desert Bighorn Sheep Inhabit Most Mountain Ranges In The Lower Gila South RMP/EIS Area

Pressure in recent times from man's activities, has led to reduced herd sizes and diminishing use areas. Alternatives calling for adjustments in livestock use, and wilderness designation would benefit crucial bighorn sheep habitat.

Implementation. Under the *Resource Protection* alternative, reduction in livestock use levels would be phased in over a five-year period. More immediate wildlife habitat improvement and increases in wildlife populations would occur than under the *Proposed Action.* BLM would not develop AMPs under this alternative but could prepare habitat management plans (HMPs) in cooperation with the Arizona Game and Fish Department to provide for faster recovery and protection of wildlife habitat. HMPs would be implemented first on allotments with the greatest potential for improvement of aquatic and terrestrial wildlife habitat, watershed, and/or vegetation.

WILDERNESS ISSUE

The *Resource Protection* alternative would designate portions of the New Water Mountains, Little Horn Mountains, Eagletail Mountains, Face Mountain, Woolsey Peak, North Maricopa Mountains, and Table Top Mountains WSAs (324,350 acres). As wilderness, these areas would be managed for preservation of their natural character, solitude, and primitive recreation opportunities in accordance with BLM's Wilderness Management Policy and the Wilderness Act of 1964. A wilderness management plan would be developed and

implemented for each area following wilderness designation by Congress.

Five entire WSAs and portions of the seven WSAs, totaling 283,207 acres, would not be designated wilderness. After release from wilderness review by Congress, these lands would be managed for their multiple use resource values according to the decisions reached in the approved Lower Gila South RMP. WSA suitable and nonsuitable acreage and recommended land acquisition for each area are described in Table 2–2.

Acquisition through land exchange of 3,083 acres of surface and mineral estate and 3,401 acres of nonfederal mineral rights within or adjacent to the WSAs would facilitate wilderness management and enhance wilderness and related values under this alternative. Acquisition of nonfederal minerals would allow BLM-administered surface lands to be incorporated into the proposed wilderness areas.

LAND TENURE ISSUE

Disposal (Exchange or Sale). This alternative would dispose of the same lands that were identified under the *Proposed Action*. See Appendix 3 and Table 2–3.

Acquisition. Approximately 42,505 acres of nonpublic lands would be identified for acquisition, which would benefit wildlife, botanical, wilderness, and other multiple use values. Appendices 4 through 8 list the benefiting resource program and the legal description of the lands to be acquired. Also see Table 2–4 for a summary of lands to be acquired.

Split Mineral Estate. Same as the *Proposed Action*.

UTILITY CORRIDOR ISSUE

Same as the *Proposed Action*.

Environmental Protection Alternative

This alternative would eliminate livestock grazing in the RMP/EIS area and analyzes the impacts of removing livestock from public lands. All other issues would be resolved the same as in the *Resource Protection* alternative. This alternative was developed to show the impacts of removing livestock from public rangelands and to provide managers with a full range of options to study.

RANGELAND MANAGEMENT ISSUE

Level of Management. BLM would cancel all grazing permits on the 30 perennial-ephemeral allotments and grazing leases. All forage would be reserved for wildlife and other benefiting resources. Livestock grazing would be phased out over a five-year period after the filing of the final RMP. No ephemeral grazing licenses would be issued for the 18 ephemeral allotments.

Rangeland Developments. BLM would build or maintain rangeland developments only to benefit wildlife, watershed, and other benefiting resources. Livestock operators with investments on public lands would be entitled to project salvage rights. To prevent cattle from straying onto public lands, 700 miles of fence, 200 cattleguards, and 150 gates would be required.

Monitoring. BLM would monitor wildlife habitat conditions, watershed conditions, and periodically inspect public lands to detect livestock trespass.

Implementation. Livestock grazing would be phased out over a five-year period after grazing decisions became final. A burro capture plan would be developed to remove all wild burros from the Painted Rock Reservoir Herd Area.

WILDERNESS ISSUE

The *Environmental Protection* alternative would designate as wilderness all 12 WSAs, totaling 607,557 acres. This alternative would preserve wilderness values in all WSAs, but would restrict other resource uses that might conflict with wilderness management. This alternative represents the *All Wilderness* alternative required by BLM's Wilderness Study Policy. Suitable acreage and recommended land acquisition for each WSA are shown in Table 2–2.

Acquisition through land exchange of 6,396 acres of surface and mineral lands and 14,081 acres of mineral rights within or adjacent to the WSAs would facilitate wilderness management and enhance wilderness and related values. Acquisition of nonfederal minerals would allow the BLM-administered surface lands to be incorporated into the proposed wilderness areas.

LAND TENURE ISSUE

Disposal (Exchange or Sale). This alternative would dispose of the same lands that were identified under the *Proposed Action*. See Appendix 3 and Table 2–3.

Acquisition. Approximately 47,198 acres of nonpublic lands would be identified for acquisition, which would benefit wildlife, botanical, wilderness, and other

multiple use values. Appendices 4 through 8 list the benefiting resource program and the legal description of the lands to be acquired. Also see Table 2-4 for a summary of lands to be acquired.

Split Mineral Estate. Same as the *Proposed Action.*

UTILITY CORRIDOR ISSUE

Same as the *Proposed Action.*

Management Guidance Common to All Alternatives

The following are current practices and would be continued regardless of the alternative implemented.

RANGELAND MANAGEMENT

Allotment Categorization. All grazing allotments in the Lower Gila South RMP/EIS area have been assigned to two of the three management categories outlined in BLM's current grazing management policy. See Appendix 12 for a detailed definition of the grazing allotment categories. Except for the *Environmental Protection* alternative, all allotments and grazing leases would be categorized as follows for all alternatives. Categorization for the 22 allotments designated perennial-ephemeral would place 12 allotments in the Maintain category and 10 allotments in the Custodial category. The remaining 18 ephemeral allotments and eight Section 15 perennial-ephemeral grazing leases would be placed in the Custodial category (see Table 2-6). The Maintain allotments generally would be managed to maintain current satisfactory resource conditions, and Custodial allotments would be managed to prevent resource deterioration.

TABLE 2-6
PERENNIAL-EPHEMERAL ALLOTMENT CATEGORIZATION
Bureau of Land Management, Phoenix District, Arizona

Maintain Category	
Beloat	Hazen
Bighorn	Ranegras Plain
Cameron	Sentinel
Childs	South Vekol
Crowder-Weisser	Table Top
Eagle Tail	Vekol

Custodial Category	
Clem	A Lazy T**
Conley	Amavisca**
Coyote Flat	Arnold**
Gable-Ming	Artex**
Gila Bend Indians	Dendora Valley**
Hansen	Gable Peterson**
Kirian	Gila River Community**
Lower Vekol	Gillespie**
Ward	Hazen Sheppard**
Why	Jagow Kreager**
Amavisca*	Layton**
Bagwell*	Mariani**
Bagwell*	Mumme**
Arizona Title & Trust*	Painted Rock**
C. Hill & J. Palmer*	Palomas**
Jojoba Plantation Prod. Inc.*	Powers Butte**
K.K. Skousen (Caliente Farms)*	Sevey**
White Wing Ranch Co.*	Stout**

* Sec. 15 grazing leases outside grazing boundary.
** Ephemeral allotments.
SOURCE: Phoenix District grazing records

Rangeland Developments. Proposed developments would be approved or authorized by one of two methods under all the alternatives: (1) range improvement permits or (2) cooperative agreements. A range improvement permit authorizes a privately owned project (a corral, fence, well) that aids in the handling of livestock and is paid for by the permittee. All developments on public land must meet the same environmental and engineering standards as those constructed by BLM (Appendix 13). For a cooperative agreement, BLM may fund all or part of the development and the title remains with the United States. Cooperative agreements specify maintenance responsibility and division of cost and labor between BLM and the permittee. Developments constructed primarily to benefit resources other than livestock would be maintained by BLM or nonlivestock cooperators through agreement. Under BLM policy, permittees maintain structural developments such as fences, wells, troughs, springs, reservoirs, pipelines, and cattleguards installed primarily to benefit livestock grazing. BLM maintains nonstructural developments not assigned to permittees.

Rangeland Monitoring Program. BLM's monitoring program provides information critical to managing and refining the grazing program and provides a basis for making needed adjustments. A rangeland monitoring plan was prepared in June 1981 and outlines the studies to be conducted for each allotment. Detailed monitoring plans have also been developed for each allotment and are described in allotment files at the Lower Gila Resource Area Office.

On selected perennial-ephemeral allotments, monitoring studies would include at a minimum actual yearly livestock use, forage utilization, trend in rangeland condition, and precipitation. Monitoring studies on allotments classified as ephemeral would consist of photo-points at selected key areas. BLM would also design studies to ensure that wildlife requirements in

riparian areas were being met. Special emphasis would be placed on monitoring riparian habitat along the Gila River (Fred J. Weiler Green Belt).

Grazing Administration. BLM would supervise livestock grazing throughout the year under all alternatives except the *Environmental Protection* alternative where all livestock would be removed from the public land. Should livestock trespass be discovered, BLM would have the unauthorized livestock removed and require the operators responsible for the trespass to pay for the forage consumed and damages incurred.

Twenty-two grazing allotments and eight grazing leases are classified as perennial-ephemeral and are allowed to graze a base herd on a yearlong basis. Livestock operators on perennial-ephemeral allotments would be offered 10-year permits that state the number and kind of livestock and the period of use for each allotment. Flexibility in livestock numbers could be allowed for years of high or low forage production, availability of water, early or late rangeland readiness, and variations in ranching operations. Flexibility would be allowed as long as actual use did not exceed the initial livestock preference. Additional livestock use would be authorized by issuing a supplemental grazing permit when such use would not conflict with management objectives and the perennial vegetation would not be damaged. Temporary permits for ephemeral grazing would generally be issued for at least 30 days, and only if the overall rangeland condition were fair or better. Grazing authorizations for ephemeral forage on perennial-ephemeral allotments would be issued to qualified applicants only if such forage were assured.

For the 18 ephemeral allotments, an annual application by qualified permittees is not now required unless grazing use is desired. If ephemeral forage existed or climatic conditions indicated the probability of an ephemeral forage crop, livestock grazing would be authorized on a yearly basis upon application and would be subject to management requirements.

PROTECTED PLANTS

Before construction or soil-disturbing activities are allowed, BLM conducts site evaluations for protected plants. If possible, projects are located to avoid impacts to large numbers of protected plants or their habitats. Where significant impacts to protected plants are possible, plants are salvaged and transplanted or the project is abandoned. BLM notifies the Arizona Commission of Agriculture and Horticulture 30 days in advance of actions that would affect plants protected under the Arizona Native Plant law (Arizona, State of, 1981).

In addition, BLM would place special emphasis on the protection of four significant botanical areas. These areas feature unique relict populations that are important in studying the original plant communities in the Sonoran Desert. Two of the areas, Table Top Mountains and Eagletail Mountains, are under wilderness study.

WILDERNESS RESOURCES

All 12 wilderness study areas authorized by Section 603(a) of FLPMA will continue to be managed in compliance with BLM's Interim Management Policy (BLM, (revised) July 12, 1983) until wilderness suitability recommendations are reviewed and acted on by Congress. Areas being studied for wilderness will be managed to meet the nonimpairment standard. In cases where valid mining rights occur, areas would be managed to prevent unnecessary and undue degradation of the land.

Public land within areas added by Congress to the National Wilderness Preservation System would be managed in compliance with BLM's Wilderness Management Policy and the Wilderness Act of 1964. Site-specific wilderness management plans would be developed for such areas within two years after designation by Congress.

WSAs reviewed by Congress but not added to the National Wilderness Preservation System would be managed for their multiple use resource values in accordance with applicable guidance provided by the approved Lower Gila South RMP.

Copies of BLM's Interim Management Policy, Wilderness Management Policy, and the Wilderness Act of 1964 are available to the public at the Phoenix District Office.

LAND TENURE

Lower Gila Resource Area processes a variety of land actions in the Lower Gila South RMP/EIS area—rights-of-way, communication sites, easements, permits, and unauthorized occupancy. All land cases would continue to be evaluated on a case-by-case basis. Communication site plans will be developed on all existing sites and will be prepared prior to any new site approval or development.

A. The main methods of disposal will be through sales (FLPMA, Section 203) or exchanges (FLPMA, Section 206) or both. Other forms of disposal such as Recreation and Public Purpose (R&PP) would also be appropriate forms of disposal.

B. In addition to the above disposal criteria, all public lands within the RMP/EIS area (with the exception of public lands that are withdrawn, classified, under wilderness study, or designated

as wilderness) will be available for disposal to accommodate the following actions:

1. state exchanges,
2. state in-lieu selections, and
3. special legislation that calls for the disposition of public lands.

C. Lands to be acquired by BLM through exchanges should:

1. facilitate access to public lands and resources,
2. maintain or enhance public uses and values,
3. facilitate implementation of other aspects of the Lower Gila South RMP, and
4. provide for a more manageable land ownership pattern.

CULTURAL RESOURCES

BLM is mandated by Congress to play a stewardship role in the preservation of cultural values on public land. BLM would continue to manage cultural resources for their cultural values. Certain significant sites or areas may be protected and preserved for future use as funds become available.

The following measures apply to all actions in the RMP/EIS area involving ground disturbance or transfer of title. Before proposals involving surface disturbance or transfer of title are approved, site-specific cultural resource evaluations will be completed, including a Class I literature review, as well as a Class III intensive field inventory or an adequate Class II sample survey, as appropriate (BLM Manual 8111). If any historic or archaeological properties are found, their eligibility for inclusion in the National Register of Historic Places will be determined in consultation with the Arizona State Historic Preservation Officer (SHPO) (36 CFR 1204). Whenever feasible BLM will avoid impacts to cultural resources by redesigning or relocating the project. If impacts are unavoidable, BLM will consult with the SHPO to develop mitigating measures to reduce or eliminate adverse impacts to cultural resources. BLM will consult with the Advisory Council on Historic Preservation as appropriate in accordance with 36 CFR 800. In addition, BLM will consult with appropriate Native American groups which have aboriginal or historic ties to lands within project areas concerning known areas of traditional cultural and/or religious significance. Impacts to cultural resources will be mitigated before project construction begins. If buried cultural remains are found during construction, the construction will stop and BLM will be notified. These measures will ensure compliance with the National Historic Preservation Act of 1966 and the National Environmental Policy Act of 1969.

FIRE MANAGEMENT

The Phoenix District has developed a fire plan that is designed to manage fires as they occur in all areas of the district. The plan identifies areas suitable for prescribed burns, modified suppression areas, intensive control areas, and rehabilitation measures. Objectives are to maintain desired plant communities, recycle nutrients, and prepare seed beds.

MINERALS

Private industry is encouraged to explore and develop federal minerals to satisfy national and local needs. This policy provides for economically and environmentally sound exploration, extraction, and reclamation practices. Public lands are open and available for mineral exploration and development unless withdrawn or administratively restricted. Mineral development may occur along with other resource uses.

Locatable Minerals. Exploration and development in the RMP/EIS area would continue to be administered in accordance with existing surface and mineral management regulations (43 CFR 3809 and CFR 3802).

Saleable Minerals. Demand for saleable minerals would be met by sales or free-use permits on a case-by-case basis.

Leasable Minerals. Leasable minerals would be managed under the leasing regulations.

RECREATION PROGRAM

Although recreation in the Lower Gila South RMP/EIS area was not identified as a major issue, the impacts to recreation use will be analyzed in this document as they relate to the wilderness issue.

The recreation program will continue to participate in environmental assessments and resource activity plans in order to address and mitigate impacts on recreation resources. Visual resource management, management of off-road vehicle (ORV) use, and other recreation resource management will continue as recreation programs.

Off-Road Vehicle Use. No areas have been identified in the RMP/EIS area for ORV designation. Restrictions on or closure of public lands to motorized off-road vehicle use will be established for specific roads, trails, or areas where problems are identified. The following criteria would be considered before restricting or closing any area to ORV use.

- the need to promote user enjoyment and minimize use conflicts;

• the need to minimize damage to soil, watershed, vegetation, or other resource values;
• the need to minimize harassment of wildlife or significant degradation of wildlife habitats; and
• the need to promote user safety.

Public land in the Lower Gila South RMP/EIS area is open to motorized ORV use. Wilderness areas established by Congress in the Lower Gila South area would be closed to motorized vehicle use.

The Lower Gila Resource Area's recreation program will continue to prepare environmental assessments and ORV races will be permitted as appropriate.

Visual Resource Management. Visual resources will continue to be evaluated as a part of activity and project planning. These evaluations would consider the significance of a proposed project and the visual sensitivity of the affected area. Stipulations are to be attached as appropriate to assure compatibility of projects with management objectives for visual resources.

Visual resources were not identified as an issue in the Lower Gila South EIS/RMP, therefore, visual resource management (VRM) classes for all public lands in the area have not been established. On BLM-administered lands in Arizona where classes have not been established, the lands will be managed as VRM Class III. All wilderness study areas are managed as VRM Class II and designated wilderness areas as VRM Class I.

VRM classes, their objectives, and required management practices are as follows.

Class I	Class I provides primarily for natural ecological changes only. It is applied to primitive areas, some natural areas, and similar situations where management activities are to be restricted.
Class II	Changes in any of the basic elements (form, line, color, or texture) caused by a management activity should not be evident in the characteristic landscape.
Class III	Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character.
Class IV	Changes may subordinate the original composition and character but must reflect what could be a natural occurrence within the characteristic landscape.
Class V	Change is needed. This class applies to areas where the naturalistic character has been disturbed to a point where rehabilitation is needed to bring it back into character with the surrounding countryside. This class would apply to areas identified in the scenery evaluation in which the quality class has been reduced because of unacceptable intrusions. It should be considered an interim short-term classification until one of the other objectives can be reached through rehabilitation or enhancement. The desired visual quality objective should be identified.

WILDLIFE PROGRAM

BLM's wildlife program in the Lower Gila South RMP/EIS area was not identified as a major issue. The wildlife program will continue to participate in environmental assessments or resource activity plans to ensure the consideration of wildlife needs and values and to mitigate any adverse impacts to wildlife habitat. BLM would continue to place wildlife escape ramps in water troughs and construct or maintain new wildlife waters in coordination with state and other federal agencies and according to the following specifications.

1. New livestock waters will be located at least two miles from crucial tortoise habitat and/or crucial desert bighorn sheep habitat.
2. Before installing facilities, BLM will conduct a site evaluation for state-protected animals and will develop mitigation to protect these species and their habitats. Such mitigation might include project relocation, redesign, or abandonment.
3. If a project is proposed within the habitat of a threatened or endangered species, BLM will consult with the U.S. Fish and Wildlife Service in accordance with the Endangered Species Act of 1973, as amended, and take appropriate action.
4. During construction of rangeland developments, vehicles will use existing roads and trails wherever possible for access to sites. Where feasible or where no roads exist, vehicles will travel cross-country to avoid the need for road building. Where new roads must be built, roadbeds will be no wider than needed for reliable access; BLM specifications will also be used to reduce erosion and gullying.
5. During construction of all rangeland developments, surface resources will be disturbed as little as possible. After construction, disturbed surfaces will be restored to a natural condition as far as is practicable.
6. Fences proposed in big game habitat will be designed to reduce adverse impacts to big game movement. Specifications in BLM Manual 1737 and in local BLM directives will be used. BLM will consult with the Arizona Game and Fish Department on the design and location of new fences.

7. Where existing fences in big game habitat do not meet BLM specifications, they will be modified according to BLM Manual 1737 when they are scheduled for replacement or major maintenance.
8. As a general practice, new roads will not be bladed for use in fence construction. Vehicles will travel overland, or fences will be built by hand.
9. All livestock waters will provide safe, usable water for wildlife. As funding and opportunities permit, existing facilities will be modified for safe wildlife use. The following standards apply to design and modification of livestock waters.
   - The above-ground height of livestock troughs and tanks will not exceed 20 inches. BLM will install wildlife escape ladders in each facility and provide ramps for small bird and mammal access. Storage tanks will have either a metal or floating vinyl cover to reduce evaporation and prevent wildlife from drowning.
   - Ground-level wildlife water developments will be established on livestock waters where feasible. An exclosure of three to seven acres containing the water source, storage, and related riparian habitat will be built to exclude livestock. Where terrain permits, livestock water will be provided at least 0.25 miles outside of the fenced exclosures.
   - Developed spring storage and adjacent riparian habitat will be fenced to exclude livestock.
   - Where practical, water troughs and tanks will be kept full year-round to provide a continuous water supply for wildlife.

WOODCUTTING PERMITS

The Lower Gila Resource Area would continue to issue woodcutting permits on a case-by-case basis.

Summary of Impacts

The analysis of the environmental consequences of the *Proposed Action* and alternatives reveals that none of the alternatives would measurably impact geology, topography, soils, water resources, protected plants, visual resources, air quality, climate, wild burros, social conditions, or fire management. Impacts would occur to rangeland management, vegetation, wilderness, land uses, minerals and energy, wildlife habitat, cultural resources, recreation, and economic conditions. Table 2-7 summarizes impacts by alternative. For a more detailed analysis of impacts, see Chapter 4.

TABLE 2-7
IMPACT SUMMARY TABLE BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Resources Impacted	Proposed Action	No Action	Resource Production	Resource Protection	Environmetal Protection
Rangeland Management					
Allocated AUMs	60,524	60,524	54,315	31,914	0
Change From Authorized Grazing	0	0	-10%	-47%	-100%
Distribution of Livestock Grazing	Improve	No Improvement	Improve	Improve	No Impact
Livestock Operators	No Impact	No Impact	Beneficial	Adverse	Adverse
Allotments Overlapped by WSA	11	0	0	19	33
Allotment Management Plans	0	0	8	0	0
Vegetation					
Acres Acquired (Botanical T&E)	2,440	0	0	2,440	2,440
Rangeland Condition & Trend	Slight Improvement	Static	Improve	Improve	Improve
Wilderness					
WSAs Recommended	4	0	0	7	12
WSA Acres Recommended	189,750	0	0	324,350	607,557
WSAs Not Recommended	8	12	12	5	0
WSA Acres Not Recommended	417,807	607,557	607,557	238,207	0
Acres to be Acquired	2,643	0	0	3,083	6,396
Land Uses					
Acres Recommended for Disposal	73,123	0	73,123	73,123	73,123
Acres Recommended for Acquisition	36,845	0	22,842	42,505	47,198
Split Mineral Estate Acquisition	112,160	0	112,160	112,160	122,160
Split Mineral Estate Disposal	23,645	0	23,645	23,645	23,645
Utility Corridors					
Number of Corridors Proposed	10	0	10	10	10
WSA Boundary-Corridor Conflicts	0	0	0	1	5
Wildlife					
Acres Protected by Wilderness Design.					
Desert Bighorn Sheep	147,090	0	0	241,170	373,850
Desert Tortoise	10,520	0	0	17,570	46,770
Acres Acquired	11,120	0	2,200	16,340	17,840
Mineral and Energy Resources					
Acres Closed to Mineral Entry	189,750	0	0	324,350	607,557
Acres Closed to Mineral Leasing	189,750	0	0	324,350	607,557
Acres of Oil & Gas Leasing Affected	189,750	0	0	324,350	607,557
Mining Claims Affected Within WSAs	199	0	0	666	3,152
Cultural Resources					
Acres Protected by Wilderness Design.	103,818	0	0	145,513	218,560
Recreation					
Acres Closed to ORVs	189,750	0	0	324,350	607,557
Economic Conditions					
Net Revenue (Long Term $)					
Small Ranch	3,743	3,743	3,040	2,512	0
Medium Ranch	12,424	11,588	13,112	6,037	0
Large Ranch	36,251	34,863	36,427	13,419	0
20-Year Net Revenue (Present Value $)					
Small Ranch	37,094	37,094	30,126	25,440	0
Medium Ranch	117,890	114,839	113,403	59,908	0
Large Ranch	350,612	345,498	323,661	135,899	0
Ranch Values (Long Term $)					
Small Ranch	72,000	72,000	61,500	57,000	0
Medium Ranch	255,000	241,500	273,000	127,500	0
Large Ranch	909,000	894,000	925,000	445,500	0

SOURCE: Phoenix District files

Chapter 3

AFFECTED ENVIRONMENT

CHAPTER 3

AFFECTED ENVIRONMENT

Introduction

The purpose of this chapter is to serve as a baseline for identifying and evaluating the impacts of five alternatives. The impacts will be discussed in Chapter 4. Some impacts to certain resources would be negligible or nonexistent, therefore descriptions are correspondingly brief or are not included.

More detailed descriptions of the resources in the Lower Gila South RMP/EIS area may be found in the Lower Gila South Management Situation Analysis (BLM, 1983). Copies of this document may be reviewed at BLM's Phoenix District Office.

Physical Setting

The RMP/EIS area located in southwestern Arizona lies mostly within the Basin and Range physiographic province and consists of broad desert basins bound by relatively low desert mountain ranges. Principal mountain ranges are the Plomosa, New Water, Little Horn, Eagletail, Sierra Estrella, Gila Bend, and Maricopa Mountains in the northern half of the area and the Batamote, Table Top, and Little Ajo Mountains in the southern half of the RMP/EIS area. Granite mountains dominate the area, which is drained by the Gila River. Elevations in the RMP/EIS area range from about 100 feet at the western edge along the Gila River to approximately 4,300 feet at the eastern edge near the Sierra Estrella Mountains.

The RMP/EIS area's climate is influenced by the Pacific and Gulf of Mexico air masses during the warm months and by middle latitude storms from the North Pacific during the cooler months. The average annual temperature varies from 61°F to 71°F for most of the area. An extreme low of 9°F was recorded at various locations and an extreme high of 126°F was recorded near Mohawk on the western edge of the RMP/EIS area.

Average annual precipitation varies from 3.03 inches at Dateland to 10 inches at Coffee Pot Mountain near Ajo. An annual low precipitation of 0.58 inch has been recorded at Dateland and an extreme high of 17.08 inches was recorded at Buckeye in 1941 (Sellers and Hill, 1974).

Rangeland Management

LIVESTOCK GRAZING

The Lower Gila Resource Area currently authorizes grazing on 48 grazing allotments (22 perennial-ephemeral and 18 ephemeral allotments and eight perennial-ephemeral grazing leases) in the Lower Gila South RMP/EIS area on approximately 2,009,232 acres. Grazing leases occur on small, scattered parcels of public land and account for small percentages of private livestock grazing operations.

Thirty allotments (including the eight grazing leases) are designated as perennial-ephemeral allotments and are authorized for 60,524 AUMs of livestock forage annually. As shown in Table 2–6, 12 perennial-ephemeral allotments are in the Maintain category and 18 are in the Custodial category. The perennial-ephemeral allotments are generally cow-calf operations which also graze steers during years of favorable ephemeral forage growth (generally three of 10 years). Additional livestock grazing use can be authorized for ephemeral forage under a supplemental grazing license when sufficient annual forage is present and such use does not conflict with other resources or damage the perennial vegetation base.

Eighteen allotments encompassing 416,954 acres are designated as ephemeral allotments and are administered in accordance with the Special Ephemeral Rule published in December 1968. All 18 ephemeral allotments are in the Custodial management category. Ephemeral range does not consistently produce forage but periodically provides annual vegetation suitable for livestock grazing. Favorable years are highly unpredictable and the season is short-lived. Under the Special Ephemeral Rule, livestock grazing is permitted on ephemeral allotments only when sufficient precipitation and temperatures provide the probability of an ephemeral forage crop to exist. Currently no allotment management plans (AMPs) have been developed for any of the allotments in the RMP/EIS area.

RANGE VEGETATION

Four vegetative rangeland types are in the Lower Gila South RMP/EIS. Of these four types, the three that

make up 98 percent of the RMP/EIS area are creosotebush-bursage, paloverde-cactus shrub, and the riparian zone of the Gila River and desert dry washes (Norris, 1984). The fourth type—grass-shrub—is not typical of the RMP/EIS area, which is the westernmost edge of the galleta-shrub type where galleta is mixed with various woody shrubs.

The largest and most extensive of these vegetation types is the creosotebush-white bursage rangeland, which provides a large portion of the RMP/EIS area's ephemeral forage and generally occurs in broad valleys common to the region. The white bursage area extends above the broad valley floors, whereas the creosotebush area continues to hold a position on the uppermost bajadas and on into the mountains (Turner and Brown, 1982). Other plants associated with this vegetation type include ironwood, ratany, wolfberry, Mormon tea, and big galleta.

The next most extensive range type is the paloverde-cacti-mixed shrub, which is dominated by little leaf paloverde and the large columnar saguaro. This plant community is best developed away from the valley floors on bajadas and mountainsides (Turner and Brown, 1982). Other species associated with this type include acacia, jojoba, ratany, *Opuntia* sp., and buckwheat.

The third and perhaps the most important is the riparian vegetation type, which grows along stream banks of the Gila River and along dry washes throughout the area. This type, although comprising a lower percentage of the area, receives the bulk of use from livestock grazing and wildlife and is the most diverse of the rangeland types. For vegetation analysis both broadleaf and mesquite types are grouped under the general heading of riparian.

Ephemeral Forage Plays An Important Role In Desert Rangelands

Many livestock operations and wildlife species rely on ephemeral vegetation for food and cover. Large quantities of ephemeral forage is produced as a result of infrequent heavy rains during summer and winter.

EPHEMERAL VEGETATION

Ephemeral (annual) vegetation occurs in all four vegetation types. Desert ephemerals germinate rapidly and mature early under the proper combination of favorable temperature and adequate moisture. The life cycle of many species lasts only from five to six weeks (Shreve, 1942). Annuals such as filaree, Indian wheat, Mediterranean grass, red brome, and fiddleneck provide most of the RMP/EIS area's ephemeral forage (BLM, 1983). During years with above-average rainfall, production of ephemeral vegetation can be many times the yearly perennial production. These ephemerals provide almost all of the forage on ephemeral allotments and are also important forage producers on perennial-ephemeral allotments during years of above-average rainfall.

RANGELAND CONDITION

Rangeland condition estimates were based on comparing existing plant species composition on range sites with presumed climax plant composition as described in range site guides developed jointly by BLM and the Soil Conservation Service. The closer a range site is to its climax stage, the higher is its condition rating. Management plans are generally designed to improve the condition of the rangeland towards climax, but a climax state is not always desirable. Range specialists must determine whether the climax plant community is the most productive or the most desirable condition to be achieved. Management plans may then be designed to produce the desired condition. The methodology for determining rangeland condition is described in Appendix 14.

The range site system used an ecological approach to evaluate a specific site. In the RMP/EIS area, nine percent of the public rangelands is in excellent condition, 51 percent is in good condition, 30 percent is in fair condition, and 10 percent is in poor condition. Appendix 15 shows rangeland condition by allotment.

APPARENT TREND

Rangeland trend is the direction of change in rangeland condition. The present ecological rangeland condition rating alone does not show whether the plant community is improving or deteriorating in relation to its potential. Trend is a separate determination needed to assess what is happening to the plant community. The present rangeland condition is a result of a sustained trend over time. Trend is a much more sensitive indicator of change than condition.

Rangeland trend is developed from data collected over a period of time. Since trend studies have not been completely established within the area, apparent rangeland trend was determined during the rangeland inventory conducted in 1980 and 1981. Methodology for determining apparent trend is found in Appendix 14.

The apparent rangeland trend information represents only a single year's observations and thus may not reflect the actual long-term trend of an area. BLM determined apparent trend to facilitate analysis and to identify allotments needing special attention during development of management or monitoring plans. The rangeland inventory showed that apparent trend in condition of public lands within the RMP/EIS area is 85 percent static, 10 percent up, and five percent down. Appendix 15 shows the apparent trend by allotment.

PROTECTED PLANTS

No officially documented, federally listed threatened or endangered plant species are known to occur in the Lower Gila South RMP/EIS area. The Fish and Wildlife Service has recently proposed the *Mammillaria thornberi* (Thornberi fishhook cactus) for inclusion on the list of threatened or endangered species. In addition BLM has determined that 19 species are considered to be sensitive in the RMP/EIS area (Table 3-1). These species also appear on the Arizona Natural Heritage Program's list of special plants and are listed by the Arizona Commission of Agriculture and Horticulture. Five of the species are negatively affected by the grazing and trampling of livestock, wild burros, and wildlife.

Additional information on these species is included in the Lower Gila South MSA on file at the Phoenix District Office.

WILD BURROS

Wild burros are found in one location in the Lower Gila South RMP/EIS area near the Painted Rock Reservoir area along the Gila River. Use of the Lincoln Index Inventory Method in June of 1980 estimated 15 to 25 burros inhabited the Painted Rock Herd Area (Caughley, 1975). Crucial habitat for wild burros in the Lower Gila South RMP/EIS area is mainly river bottom along the Gila River below Painted Rock Dam.

During summer months when the Gila River is dry, burros enter private agricultural fields for forage and water. They also pose a problem to the state recreation area below the dam. No burro capture plans have been prepared at this time.

TABLE 3-1
PROTECTED PLANTS--LOWER GILA SOUTH RMP/EIS AREA
Bureau of Land Management, Phoenix District, Arizona

Scientific Name	FWS Candidate Species	Listed By BLM	Listed By Arizona Natural Heritage Program	Listed By Arizona Commission of Agric. & Hort.	Affected By Grazing
Acalypha pringlei		X	X		X
Allium parishii		X	X	X	
Bacopa routndifolia		X	X		
Colubrina californica			X		X
Euphorbia trachysperma		X	X		
Graptopatalum rusbyi		X	X	X	
Malvastrum bicuspidatum		X	X		
Mammillaria thornberi	X	X	X	X	X
Nemacaulis denudata var. gracilis		X	X		
Neoevansia striata		X	X	X	
Neolloydia erectocentra var. acunensis	X	X		X	X
Opuntia wigginsii	X	X		X	
Peniocereus greggii	X	X		X	
Pilostyles thurberi		X	X		
Selaginella eremophila		X	X		
Stenocereus thurberi		X	X	X	X
Stephanomeria schottii		X	X		
Stillingia linearifolia		X	X		
Tumaunoca macdougalii	X	X	X		

SOURCE: Bureau of Land Management, Fish and Wildlife Service, Arizona Natural Heritage Program, and Arizona Commission of Agriculture and Horticulture data.

Wilderness Values

Arizona's BLM Wilderness Inventory (BLM, 1979) identified 12 wilderness study areas (WSAs) within the Lower Gila South RMP/EIS area. A detailed discussion of each WSA and its resources is presented in the Lower Gila South Wilderness Supplement, which accompanies this RMP/EIS. The Wilderness Values sections of these documents discuss the 12 WSAs in terms of:

1. Wilderness Quality. Each area's mandatory characteristics of size, naturalness, and outstanding opportunities for solitude and/or primitive recreation are examined. Also described are ecological, geological, scientific, educational, scenic, or historical features which enhance the area's wilderness values.

2. Diversity in the National Wilderness Preservation System (NWPS). This section describes the extent to which designation of any area under study would contribute to expanding the diversity of the NWPS. Ecosystems, landform groups, and the geographic distribution of wilderness areas are described. In addition, the opportunities for solitude or primitive recreation within a day's driving time (five hours) of major population centers are assessed.

Individual WSA Descriptions and Wilderness Values

NEW WATER MOUNTAINS (AZ-020-125) 40,375 ACRES

The New Water Mountains WSA is in La Paz County, 13 miles east of Quartzsite, Arizona, and borders a U.S. Fish and Wildlife Service proposed wilderness. The area is characterized by rugged volcanic mountains dissected by narrow canyons and sandy washes. A sparse paloverde and saguaro cactus plant community covers most of the WSA.

The study area is essentially natural because 20.75 miles of vehicle ways, several range and wildlife water developments, and some mine prospects are widely scattered, are screened by terrain and vegetation, and therefore are not substantially noticeable.

Opportunities for solitude and primitive and unconfined recreation are outstanding because of the area's size, numerous canyons, ravines, and rugged, craggy peaks. Hiking, backpacking, wildlife observation, and rock collecting opportunities are excellent. Supplemental wildlife and prehistoric cultural features contribute to the WSA's wilderness values. Much of the area is crucial desert bighorn sheep habitat, including a lambing ground.

LITTLE HORN MOUNTAINS WEST (AZ-020-126A) 12,660 ACRES

This WSA is in La Paz and Yuma Counties, 30 miles southeast of Quartzsite, Arizona, and is adjacent to a U.S. Fish and Wildlife proposed wilderness area. The Little Horn Mountains within the WSA are characterized by basalt hills and numerous volcanic features. Drainages in the area are shallow and rocky. Vegetation consists of paloverde and saguaro on the hills and mixed desert scrub in the lower areas.

The WSA is essentially natural because a one-mile fence line, several historic adits, and three short vehicle ways are not substantially noticeable. The jumbled arrangement of hills and low mountains separated by small canyons provide outstanding opportunities for solitude. Good but not outstanding opportunities for primitive and unconfined recreation also exist.

Two special features enhance the WSA's wilderness values. The entire WSA is crucial desert bighorn sheep habitat and about half the WSA is likely to contain some prehistoric archaeologic sites.

LITTLE HORN MOUNTAINS (AZ-020-127) 90,430 ACRES

Little Horn Mountains WSA lies in La Paz and Yuma Counties, 38 miles southeast of Quartzsite, Arizona. This WSA includes the greater part of the Little Horn Mountains, a large portion of the Ranegras Plain, and small portions of the Palomas Plain and Nottbusch Valley.

The area around the Little Horn Mountains is a rugged Sonoran Desert range of basalt and volcanics cut by two 800-foot-deep canyons and numerous small canyons. The red, buff, and yellow canyons show a striking geologic color contrast. Creosotebush covers the desert plains and saguaro, ocotillo, and cholla grow on the mountains.

The WSA is essentially natural and has been primarily affected by the forces of nature. In addition to three cherrystem roads accessing Arizona Game and Fish Department water catchments, the WSA has 38 miles of vehicle ways, five miles of fenceline, and three mining sites. These imprints do not individually nor cumulatively affect the WSA's naturalness because they are screened by terrain and vegetation, and one can take extensive hikes without seeing any sign of human activity.

The vastness of the WSA, coupled with the jumbled arrangement of basalt mesas, hills, and low mountains separated by canyons, offers an outstanding opportunity for solitude. In addition, the WSA has several striking volcanic features, geologic color contrasts, hunting opportunities, and extensive vistas that contribute to outstanding recreational opportunities. Cultural (prehistoric archaeological sites) and wildlife resources (important desert bighorn habitat) are supplemental features present in the WSA and contribute to its value as wilderness.

EAGLETAIL MOUNTAINS (AZ-020-128) 117,060 ACRES

The Eagletail Mountains WSA lies 65 miles west of Phoenix in Yuma, La Paz, and Maricopa Counties. The northern part of the WSA consists of a 15-mile segment of the Eagletail Mountains, the central portion a desert plain, and the southern part an elongated mountain range called Cemetery Ridge. Topography in the Eagletail portion varies from flat or greatly undulating to strikingly incised and dissected. Spectacular landforms—natural arches, high spires, monoliths, and almost vertical sawtooth ridges—are relatively common. Saguaro and paloverde dot the foothills of the Eagletails and creosotebush covers the desert plains. The Eagletail Mountains' ridgeline is barren with only sparse plant cover. Numerous north-south trending washes cross the desert plain.

Plant Lined Desert Wash Descending From East Clanton Hills—East Clanton Hills WSA

The Eagletail Mountains WSA is essentially natural and appears to have been primarily affected by the forces of nature. While the WSA contains a variety of human imprints (vehicle ways, prospects, old mine workings, well sites, and old campsites), none are considered significant enough to affect the WSA's apparent naturalness. The area's large size, varied terrain, and plant cover screen the imprints from view.

The WSA's large size, the dense vegetation cover on the desert bajada, the plains, and the dramatic topographic relief of the mountains offer outstanding opportunities for solitude. The area's size, diversity, and complex topography also create outstanding opportunities for primitive and unconfined recreation, such as hiking, backpacking, camping, hunting, cultural and botanical sightseeing, and horseback riding.

Cultural, wildlife, botanical, and scenic values contribute to the WSA's wilderness character. Archaeological sites include petroglyphs and rockshelters. Portions of the WSA are important desert bighorn sheep and desert tortoise habitat. The Eagletail Mountains have been proposed as a scientific and/or scenic natural area by the State of Arizona's Office of Economic Planning and Development because of the area's remote, pristine nature, undisturbed Sonoran Desert vegetation, and wildlife habitats.

EAST CLANTON HILLS (AZ-020-129) 36,560 ACRES

Along the Yuma-Maricopa County boundary, the East Clanton Hills WSA lies 25 miles southwest from the town of Tonopah, Arizona. The western portions of the Gila Bend Mountains, sometimes referred to as the East Clanton Hills or the Picacho Hills, are within this WSA. The WSA's southern portion includes a small part of Hyder Valley. Sparse paloverde, saguaro, and creosotebush dot the area. Some dense stands of paloverde and ironwood line the washes.

The WSA appears to be primarily affected by the forces of nature with the human imprints substantially unnoticeable. Several insignificant imprints do occur, but they do not affect the WSA's apparent naturalness because of terrain and vegetation screening. These developments include an Arizona Game and Fish Department water catchment, a water tank built in a

canyon, 35 miles of vehicle ways, an unserviceable reservoir, several unintrusive mine prospects, and 12 miles of seismic lines.

The outstanding opportunities for solitude throughout most of the WSA are a result of the WSA's size, its complex and diverse topography, and the tall, dense vegetation in some areas. The WSA's size and complexity, combined with picturesque hills and dramatic desert vistas, provide outstanding opportunities for a primitive and unconfined recreation. Supplemental cultural resources and wildlife values also exist.

FACE MOUNTAIN (AZ-020-136) 27,575 ACRES

Face Mountain WSA is in southwest Maricopa County, 33 miles southwest of Buckeye, Arizona. Face Mountain is a steep and rugged prominence that dominates the flat Hyder Valley and the highly dissected Dendora Valley that surround it. The vegetation varies throughout the WSA from a sparse creosotebush-bursage to dense paloverde-saguaro to cholla thickets at the mountain's ridgetop.

The WSA is predominantly natural with few noticeable human intrusions. The entire WSA provides outstanding opportunities for solitude. Dense desert wash and plain plant cover, badlands, and rolling terrain offer ample opportunities to avoid the sights and sounds of others and to experience isolation. There are no recognized outstanding opportunities for primitive and unconfined recreation. Also, no known special features are present.

SIGNAL MOUNTAIN (AZ-020-138) 19,640 ACRES

Situated in the central part of the Gila Bend Mountains in Maricopa County, Signal Mountain WSA lies 18 miles northwest of Gila Bend, Arizona. Signal Mountain is in the center of the WSA and is surrounded by steep-walled canyons, washes, ridges, and sharp peaks. The WSA's edge consists of bajadas, small peaks, and washes originating from Signal Mountain. Saguaro, paloverde, creosotebush, and bursage dot the rugged terrain while dense desert riparian plants line the washes.

The WSA is essentially natural because the imprints of man—vehicle ways, a prospect site, and a concrete foundation—are not substantially noticeable.

The complex topography of numerous small valleys, canyons, and ridges around Signal Mountain and the rolling hills and open washes in the rest of the WSA provide outstanding opportunities for solitude. These topographic features and the densely vegetated washes, sheer canyon walls, and rich colors of the area offer outstanding primitive and unconfined recreation opportunities, including backpacking, rock climbing, hiking, hunting, nature study, and photography. Cultural, wildlife, and scenic resource values add to the wilderness character of the area.

WOOLSEY PEAK (AZ-020-142/144) 73,930 ACRES

The Woolsey Peak WSA is in southwest Maricopa County, 16 miles southwest of Buckeye, Arizona. Woolsey Peak dominates the WSA and is surrounded by a variety of topographic features including a lava flow, a dozen mesas, and numerous rugged peaks. Sparse paloverde-saguaro and creosotebush-bursage associations are the primary vegetation.

The Woolsey Peak WSA is essentially natural because its human imprints are not substantially noticeable. Several vehicle ways, tracks, small borrow pits, prospects, an Arizona Game and Fish Department catchment, and two spring developments are found in the WSA. These imprints are well dispersed and screened by either vegetation or topography.

Opportunities for both solitude and primitive recreation are outstanding. Solitude can be experienced throughout because of the WSA's large size, excellent topographic screening, and variety of access. The size, diversity, and ruggedness of the WSA also provide outstanding opportunities for primitive and unconfined recreation. Extensive backcountry packing, hiking, horseback riding, camping, and sightseeing opportunities would be available for many users without a loss of solitude.

Wildlife (desert bighorn sheep habitat) and cultural sites (rock rings, alignments, chipping stations) are supplemental features that contribute to the WSA's wilderness values.

NORTH MARICOPA MOUNTAINS (AZ-020-157) 70,468 ACRES

The North Maricopa Mountains WSA is located along the northern end of the Maricopa Mountains, 12 miles northeast of Gila Bend, Arizona. The WSA has within its borders a 10-mile-long portion of the Maricopa Mountains as well as extensive portions of the surrounding desert plain. This plain is dissected by numerous washes, some of which are quite sizeable and display a wide diversity of vegetation. The vegetation is primarily a paloverde and saguaro community with creosotebush, mesquite, and some dense stands of cholla. Ironwood is common in the drainages.

The WSA is natural with human influences largely unnoticeable. About 35 miles of vehicle ways, a wildlife water catchment, and a one-fourth mile pipeline are within the WSA. All these imprints are small, scattered, and screened by terrain and plant cover.

The size, diverse and rugged terrain, and the general wildness of the WSA provide outstanding opportunities for solitude and primitive and unconfined recreation. Numerous hikers, backpackers, campers, and sightseers could pursue outstanding primitive recreation activities without losing a sense of isolation.

Portions of the WSA have supplemental wildlife and cultural resource values that contribute to its wilderness character. Large portions of the WSA provide habitat for desert bighorn sheep and desert tortoise.

SOUTH MARICOPA MOUNTAINS (AZ-020-163) 71,320 ACRES

The South Maricopa Mountains WSA is eight miles east of Gila Bend, Arizona. The South Maricopa Mountains (a small rugged mountain range) are surrounded by gently rolling desert and are dissected by numerous washes. Vegetation consists of creosotebush and some saguaro on the mountain slopes, dense paloverde and ironwood stands along the washes, and creosotebush and bursage on the flats between the washes.

The entire WSA is essentially natural. Little evidence of human activity exists except for vehicle ways, an old mine, some old cars, and cattle trails. Outstanding solitude and primitive and unconfined recreation opportunities exist throughout the WSA because of the complex topography, plant cover, and the area's large size. Primitive recreation opportunities of wilderness caliber include hiking, camping, backpacking, and plant and animal sightseeing.

Supplemental wildlife resource values (desert tortoise and desert bighorn sheep habitat) and cultural resources (historic and prehistoric sites) enhance the study area.

BUTTERFIELD STAGE MEMORIAL (AZ-020-164) 9,566 ACRES

The Butterfield Stage Memorial WSA is 15 miles east of Gila Bend, Arizona. This area has a central core of rugged mountains that form the southern tip of the North Maricopa Mountains. Vegetation is primarily paloverde, saguaro, cholla, and bursage.

The WSA is essentially natural with human activity substantially unnoticeable. The diversity of terrain and vegetation combine to provide an outstanding opportunity for solitude. While opportunities exist for primitive and unconfined recreation, these are not outstanding because of the area's small size.

Wildlife and cultural resource values (historic and prehistoric) contribute to the WSA's wilderness qualities. Portions of the WSA provide crucial desert bighorn and crucial desert tortoise habitat.

TABLE TOP MOUNTAINS (AZ-020-172) 37,968 ACRES

The Table Top Mountains WSA is 45 miles south of Phoenix and 20 miles west of Casa Grande, Arizona in Maricopa and Pinal Counties. The rugged mountainous terrain is dominated by 4,373-foot Table Top Mountain. Bajadas and their complex drainages surround the core of the WSA. Vegetation is primarily paloverde and saguaro with riparian species such as ironwood and mesquite along the washes. Table Top Mountain supports a desert grassland community.

The entire WSA has outstanding opportunities for solitude and primitive and unconfined recreation. Hikers, backpackers, day hikers, sightseers, and horseback riders could cross the WSA's rugged terrain with little likelihood of encountering others. Dense plant cover, a variety of access routes, and the area's size all contribute to a visitor's ability to escape the sights and sounds of human activity and experience outstanding primitive recreation.

Botanical, cultural, and wildlife values (important desert bighorn sheep and desert tortoise habitat) enhance the WSA's wilderness characteristics. Table Top Mountain has a 40-acre isolated grassland community with possible scientific and educational value. Much of the WSA is considered likely to contain archaeological sites.

DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM

Ecosystem Diversity and Ecotype/Landform. The Bailey-Kuchler system (Kuchler and Bailey, 1978) was used to classify all existing and potential units of the National Wilderness Preservation System (NWPS) into ecotype/landform types. Table 3-2 shows the Bailey-Kuchler potential natural vegetation types within each WSA.

TABLE 3-2
WSA ACRES BY VEGETATION TYPE
Bureau of Land Management, Phoenix District, Arizona

WSAs	Bailey-Kuchler Vegetation Types			
	Creosote Bush-Bursage (3220-36)		Palo Verde-Cactus Shrub (3220-37)	
	Acres	% of WSA	Acres	% of WSA
New Water Mountains	6,055	15	34,320	85
Little Horn Mountains West	0	0	12,660	100
Little Horn Mountains	18,085	20	72,345	80
Eagletail Mountains	5,855	5	111,210	95
East Clanton Hills	14,625	40	21,935	60
Face Mountain	0	0	27,575	100
Signal Mountain	0	0	19,640	100
Woolsey Peak	0		73,930	100
North Maricopa Mountains	17,617	25	52,851	75
South Maricopa Mountains	14,264	20	57,056	80
Butterfield Stage Memorial	0	0	9,566	100
Table Top Mountains	13,289	35	24,679	65
TOTALS	89,790	15	517,767	85

SOURCE: BLM, Profile 2, Wilderness Diversity Computer Reports, Phoenix District files

Table 3-3 describes these vegetation types as they are represented in designated and administratively endorsed wilderness and areas under wilderness review.

SOLITUDE OR PRIMITIVE RECREATION OPPORTUNITIES

The Lower Gila South RMP/EIS area lies within 250 miles of five standard metropolitan statistical areas (SMSAs) as defined by the Bureau of the Census. The SMSAs are Phoenix and Tucson, Arizona, Las Vegas, Nevada, and Riverside and San Diego, California. A number of both designated and administratively endorsed wilderness areas lie within a day's driving time of all five SMSAs. A breakdown of the number of areas providing solitude or primitive recreation opportunities to residents of the five SMSAs is provided in Appendix 16.

TABLE 3-3
EXISTING AND POTENTIAL REPRESENTATIONS OF ECOSYSTEM TYPES
Bureau of Land Management, Phoenix District, Arizona

Bailey-Kuchler Vegetation Type	Statutory Wilderness		Administratively Endorsed for Wilderness by the President		Potential Sources of Representation--Areas Under Study*	
	No. Areas	Acres	No. Areas	Acres	No. Areas	Acres
Creosote Bush-Bursage	5	344,217	3	430,150	48	1,401,259
Palo Verde-Cactus Shrub	4	265,450	3	847,600	41	1,396,142

* Includes areas being studied for wilderness by the Forest Service, Fish and Wildlife Service, National Park Service, and Bureau of Land Management.
SOURCE: BLM, Profile 2, Wilderness Diversity Computer Reports, Phoenix District files

GEOGRAPHIC DISTRIBUTION OF WILDERNESS AREAS

Designated and administratively endorsed wilderness areas are distributed throughout Arizona and the region. Table 3-4 shows the acreage of designated and administratively endorsed wilderness areas and the number of areas under study in Arizona and the southwest region. For the most part, the region considered in this analysis encompasses areas within approximately 300 miles of Phoenix, Arizona. This geographic area is described in more detail in the Lower Gila South Wilderness Supplement.

Existing and administratively endorsed wilderness areas within Arizona are listed in Appendix 16 by status and agency.

TABLE 3-4
GEOGRAPHIC DISTRIBUTION OF WILDERNESS AND POTENTIAL WILDERNESS
Bureau of Land Management, Phoenix District, Arizona

	BLM		FWS		FS		NPS		STATE		TOTAL	
Type of Area	No. Areas	Acres	No. Areas	Acres	No. Areas	Acres	No. Areas	Acres	No. Areas	Acres	No. Areas	Acres
Arizona												
Existing	8	286,270	0	0	35*	1,288,085	4	431,550	0	0	47	2,005,905
Endorsed	0	0	4	1,318,710	0	0	0	0	0	0	4	1,318,710
Study	72	2,100,135	0	0	3	67,930	0	0	0	0	75	2,168,065
Region												
Existing	8	286,270	0	0	43	2,220,580	5	898,790	16	310,610	72	3,716,250
Endorsed	0	0	5	2,761,810	13	171,582	3	156,624	0	0	21	3,090,016
Study	258	8,112,950	0	0	14	193,636	15	877,930	0	0	287	9,184,516

* Includes one BLM area (8,850 acres) in Kanab Creek.
BLM = Bureau of Land Management, FWS = Fish and Wildlife Service, FS = Forest Service, STATE = State of California
SOURCE: BLM, Profile 2, Wilderness Diversity Computer Reports, Phoenix District files

Land Uses

The Lower Gila South RMP/EIS area has 2,009,232 acres of public land in Yuma, La Paz, Pima, Maricopa, and Pinal Counties. The majority of the public lands in the area are well blocked and easily managed. Isolated parcels primarily occur around the population centers and along the Gila River. Isolated tracts of state and private lands within large blocks of public lands occur throughout the RMP/EIS area.

The major population centers within the area are Bouse, Buckeye, Gila Bend, Dateland, and Ajo, Arizona. Ajo is the only community landlocked by public lands, and future community expansion would be difficult.

The most common land uses on private and state land in the area are ranching, agriculture, and commercial uses. Ranching occurs throughout the area, but agricultural uses are primarily along the Gila River and Harquahala and Ranegras Plains. Jojoba is also being developed as a cash crop in these areas. In this RMP/EIS area commercial uses are generally confined to the population centers, with the exception of the hazardous waste facility that will be constructed at T. 4 S., R. 1 W., Section 32.

The environmental impact statement and decision record for the hazardous waste facility calls for a buffer zone that extends a half mile beyond the section lines around Section 32. Prior to any land use authorizations, the State of Arizona will be contacted and it will be determined if the proposal is or is not compatible with the operation of the facility. Land uses found to be incompatible with the management of the facility will be restricted within this buffer zone.

Land use demands for public acreage in the RMP/EIS area are mainly for road and utility rights-of-way. These rights-of-way normally accommodate private land owners who need utilities and legal access to their property. Major utility and transportation systems also cross the area (interstate highways, pipelines, and ultra-high voltage transmission lines—230-kV and above). Because of increased population growth and the development of the Palo Verde Nuclear Generating Station, additional uses along these existing rights-of-way can be expected. There are 10 areas (corridors) in the RMP/EIS area where this expansion can be anticipated.

Within and adjacent to the RMP/EIS area are four Indian Reservations (Gila River, Gila Bend, Ak-Chin, and Papago), two military reservations (Luke-Williams and the Yuma Proving Grounds), two wildlife refuges (Cabeza Prieta and Kofa), and the Organ Pipe National Monument. Several withdrawals associated with the Gila River are also within the area: the Painted Rocks withdrawal to the Corps of Engineers, several power site withdrawals to the Bureau of Reclamation, and a withdrawal to the Fish and Wildlife Service covering approximately 6,896 acres of the Fred J. Weiler Green Belt. There is only one classification for multiple use (CMU) in the area which covers the Fred J. Weiler Green Belt. This CMU segregates approximately 63,000 acres from all forms of appropriation including appropriation under the mining laws. The lands remain open to mineral leasing under the mineral leasing laws.

Wildlife

The Lower Gila South RMP/EIS area is composed primarily of two terrestrial habitat types: creosotebush-bursage and paloverde-mixed cacti. Other habitats include tobosa grass-scrub in South Vekol Valley and saltbush, mesquite thickets, and disclimax tamarisk habitats—all associated with the Gila River floodplain.

This section individually discusses key wildlife species (federal threatened or endangered, state threatened, unique, or high-economic value species) if they are significantly impacted by the *Proposed Action* or any of the alternatives. The focus will be on habitat factors that influence wildlife survival and are affected by the *Proposed Action* or the alternatives.

THREATENED AND ENDANGERED SPECIES

Two federally listed endangered species live within the Lower Gila South RMP/EIS area: the Yuma clapper rail (*Rallus longirostris yumanensis*) and the Sonoran pronghorn (*Antilocapra americana sonoriensis*).

The clapper rail is a secretive shorebird preferring tamarisk or cattail thickets near water. The Gila River channel is rail habitat although flood control channelization and water diversion have reduced habitat value. Rails have been documented in the Gila River upstream from Gillespie Dam (BLM, Phoenix District files).

The Sonoran pronghorn is found in creosotebush-bursage and paloverde-mixed cacti habitats southwest of Ajo. A small population ranges mostly into Organ

Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, and Luke-Williams Gunnery Range. Much historic habitat has been lost to agriculture, human habitation, overgrazing, and poaching in the United States and Mexico (Arizona Game and Fish Department, 1981). A long-term recovery effort is under way involving the U.S. Fish and Wildlife Service, Arizona Game and Fish Department, National Park Service, Department of Defense, and Bureau of Land Management.

Seven state-listed threatened and four BLM-listed sensitive species are found within the Lower Gila South RMP/EIS area, but these are not listed as federal endangered species. These eleven species and their habitats are shown in Table 3-5.

RIPARIAN HABITAT (FRED J. WEILER GREEN BELT AND PLO-1015 WITHDRAWAL)

Virtually all riparian habitat along the Gila River channel is in the form of saltcedar and mesquite thickets and saltbush flats (Haase, 1972). Native cottonwoods (*Populus fremontii*) and willows (*Salix* sp.) grow in limited numbers, intermixed with saltcedar. A total of 6,896 acres of public land riparian habitat were withdrawn in 1954, under Public Land Order 1015 for use by the Arizona Game and Fish Department (AG&FD) as waterfowl habitat. These lands are along the Gila River from Monument Hill to Gillespie Dam and provide recreation areas for a large segment of the hunting public.

Saltcedar, an introduced plant, provides excellent nesting grounds for white-winged doves (*Zenaida asiatica*) and mourning doves (*Zenaida macroura*) (Cottam and Trefethen, 1968). Mesquite thickets provide good habitat for dove, Gambel's quail (*Lophortyx gambelii*), sharp-shinned hawk, Cooper's hawk, and other species (Anderson, Engel-Wilson, Wells, and Ohmart, 1977).

The mixture of riparian vegetation, agricultural lands, and upland paloverde-mixed cacti habitat results in higher mule deer populations. Water diversion projects dry up the river for considerable periods of time. However, periodic flooding, City of Phoenix sewage discharge, and wastewater from nearby irrigated fields provide open water and cattail habitat for waterfowl, raptors, and shorebirds (Yuma clapper rail, osprey, great and snowy egret, and black-crowned night heron).

GAME BIRDS AND SMALL GAME

Three species—mourning doves, white-winged doves, and Gambel's quail—live in the Lower Gila South RMP/EIS area. Saltcedar thickets are excellent dove nesting habitat although doves will nest in paloverde, mesquite, or ironwood trees, in other habitats, and in citrus orchards on private land. Mesquite thickets make excellent roosts and escape cover for Gambel's quail which, though found in all habitats, are most abundant in mesquite. Quail populations are closely correlated to winter/spring rainfall (Galliziolli, 1960). When rainfall is high, females lay large egg clutches (up to 15) in expectation of abundant seed and insect production. Conversely, when winter/spring rainfall is scarce, quail limit reproductive activity or curtail it altogether.

Desert cottontail rabbit is the only small game mammal in the RMP/EIS area. It is most often found near brush piles or thickets in all habitats. Rabbits are most abundant in riparian areas and near agricultural fields.

BIG GAME

Desert Bighorn Sheep. Desert bighorn sheep, a state-listed threatened species, inhabit all major mountain ranges in the Lower Gila South RMP/EIS area with the largest herds occurring in the Plomosa and New Water Mountains. Bighorn sheep prefer the rugged mountainous terrain, however, they require large tracts of desert habitat around the mountains, which are free of human development and offer open migration routes between mountain ranges. Nearly equal percentages of edible forbs, grasses (annual and perennial), and browse make up the bighorn sheep's diet.

Bighorn sheep are threatened by introduced diseases, livestock competition, poaching, and human intrusions (urbanization, roads and powerline construction, mineral development, and off-road vehicle recreation). Bighorn sheep are hunted on a limited basis with six permits issued each year in the RMP/EIS area.

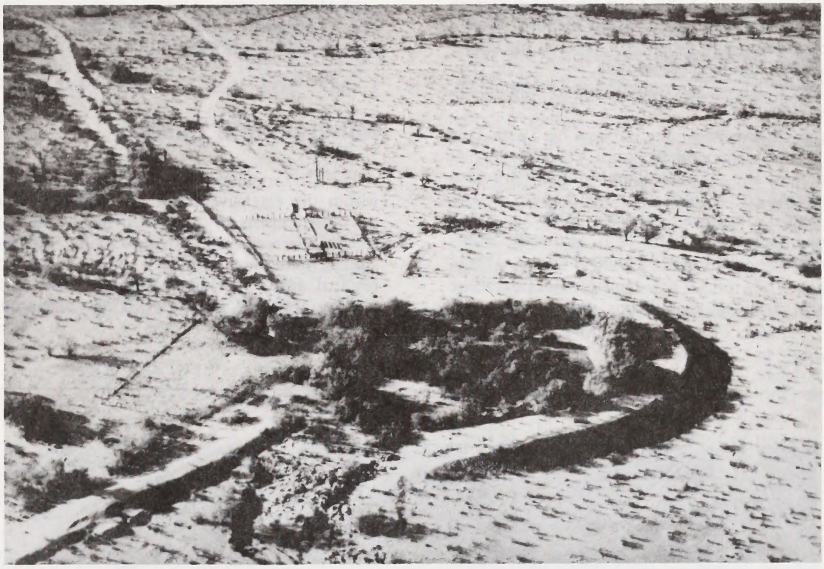
Mule Deer. Mule Deer are the most common big game species in the RMP/EIS area and are found in all habitats. Even so, deer are very sparse, limited by water and forage. Population densities average 5.3 square miles per deer in creosotebush-bursage habitat and 1.3 square miles per deer in paloverde-mixed cacti habitat (Fredlake and Lucas, 1982). The latter habitat provides deer with a greater variety of forage plants (globe mallow, slender janusia, range ratany, false mesquite, Mormon tea, and jojoba), more topographic relief, and vegetation cover.

The desert washes which meander through creosotebush-bursage habitat can provide excellent cover and forage and this is most evident in the Palomas Plain area where lack of livestock use has allowed surprisingly lush plant growth to occur. Within the Lower Gila South RMP/EIS area, mule deer are most abundant

TABLE 3-5
STATE-LISTED THREATENED SPECIES AND BLM-LISTED SENSITIVE SPECIES
FOUND IN THE LOWER GILA SOUTH RMP/EIS AREA
Bureau of Land Management, Phoenix District, Arizona

Species	Habitat	Threatened By	Group*
State Threatened Species			
Desert Tortoise (Copherus agassizii)	paloverde-mixed cacti, rocky, broken topography	pet collectors, habitat loss, heavy grazing, & off-road vehicles	III
Mohave Desert fringe-toed lizard (Uma Scoparia)	creosotebush-bursage, sandy dunes near Quartzsite & Parker	off-road vehicles & agricultural development.	III
Osprey (Pandion Haliaetus)	Gila River particularly around Painted Rock Reservoir	loss of habitat and pesticides	III
Great Egret (Casmerodius albus egretta)	roosts and breeds along rivers	river channelization & drying of Gila River	IV
Snowy Egret (Egretta thula brewsteri	roosts and breeds along the Gila River	river channelization & drying of Gila River	IV
Black Crowned Night-Heron (Nyticorax nyticorax hoacatle	roosts and breeds along the Gila River	river channelization & drying of Gila River	IV
Desert Bighorn Sheep (Ovis canadensis mexicana)	paloverde-mixed cacti, mountainous topography (all major mountain ranges in LGS)	introduced diseases, livestock competition, urbanization, road construction, mineral development, & poaching	III
BLM Sensitive Species			
Gila Monster (Heloderma suspectum)	all native habitats in LGS	loss of habitat to agricultural & urban development	S
Kit Fox (Vulpes macrotis)	open creosotebush-bursage	loss of habitat to agricultural & urban development	S
Cooper's Hawk (Accipiter cooperi)	riparian areas and mesquite thickets	loss of habitat	S
Sharp-shinned hawk (Accipiter striatus)	riparian areas and mesquite thickets	loss of habitat	S

* Group III: Species or subspecies which have suffered heavy population loss and could be in danger of elimination from Arizona in the future.
Group IV: Species for which there is a moderate threat to habitat. No recent population declines.
S: BLM maintains a list of wildlife species which are likely to become federal- or state-listed if habitat deterioration is not halted or reversed.
SOURCE: Phoenix District files, Arizona Game & Fish Department, and Arizona Natural Heritage Program



Reservoirs Constructed Properly Enhance Wildlife Habitat.

Livestock as well as many species of wildlife benefit from the construction of reservoirs. Many reservoirs dry up during hot summer months and do not always provide dependable water.

near the Eagletail Mountain, Little Horn Moutain, Cemetery Ridge, and Palomas Plain.

Javelina. Small javelina herds are found in the vicinity of Ajo, east of Gila Bend and south of Buckeye. Javelina prefer paloverde-mixed cacti habitat and consume a variety of cactus, fruits, agave, mesquite beans, roots, and tubers. Javelina are virtually nonexistent in the western half of the RMP/EIS area due to lack of preferred foods and sparse summer rainfall.

WATERFOWL, SHOREBIRDS, AQUATIC WILDLIFE

Twenty-one species of waterfowl and 36 species of shorebirds routinely use the Gila River for migration in spring and fall. A lesser number of species inhabit the area year-round.

Most stock reservoirs dry out in late spring or summer or because of heavy cattle grazing and therefore do not have enough shoreline plant cover to provide nesting habitat. Some stock reservoirs (such as those in Vekol Valley) would provide good waterfowl habitat if fenced to allow development of shoreline vegetation.

Native minnow, sucker, and topminnow species have long since disappeared from the lower Gila River. Due to influx of treated sewage, however, the river is highly productive in terms of fish pounds per surface acre of water. Dominant species include carp, tilapia, mosquitofish, catfish, and various sunfish (BLM, Phoenix District files). These fish provide the food base for the herons, egrets, and osprey mentioned in the Threatened and Endangered Species section.

NONGAME ANIMALS

The Gila River riparian habitat attracts bird species in a diversity not found in adjacent desert habitats. Warblers, phoebes, vireos, and other birds feed on the abundant insect fauna and nest in mesquite, willow, and cottonwood trees which are intermixed in the predominant saltcedar habitat.

Several reptiles live in unique habitats on Table Top and Estrella Mountains and in South Vekol Valley. A small grassy mesa top on Table Top Mountain provides habitat for two species not found elsewhere in the RMP/EIS area: the giant spotted whiptail lizard (*Cnemidophorus burti*) and the Ajo Mountain whipsnake (*Masticophus bilineatus lineolatus*) (Jones, 1983).

The Vekol Wash tobosa grassland provides excellent habitat for a variety of amphibians such as the green toad (*Bufo debilis*), narrow mouth toad (*Gastropharyne olivacea*), Colorado River toad (*Bufo alvarius*), burrowing tree frog (*Ptenophyla fodiens*), and Sonoran green toad (*Bufo retiformis*). The combination of clay soil and dense grass cover offers habitat conditions not found elsewhere in RMP/EIS area.

Minerals and Energy

The Lower Gila South RMP/EIS area lies entirely within the extensive Basin and Range province. This province consists of a series of northwest to southeast trending mountains and intervening valleys. Recent studies in the area indicate most of the mineralization resulted from volcanism and other geological events starting about 45 million years ago and continuing to

Desert Mule Deer Are The Most Common Big Game Species Found In All Habitats

Some alternatives for grazing management, and wilderness designation would reduce livestock-wildlife competition for forage and by limiting surface disturbing activities in WSAs proposed for wilderness designation.

the present time. Maps of known mineralization reveal a belt extending from southeastern to northwestern Arizona that includes the RMP/EIS area. Intense erosion during this time span tended to concentrate many of the minerals and has left exposed the evidence of recent geological history (Keith, 1984; Haxel, 1984; Scarborough, 1984; Wilt, 1984; Woodward, 1984; Bureau of Geology Maps, 1965, 1969, and 1983; AGS Digest, 1984).

LEASABLE MINERALS

The possibility that an overthrust belt extended under Arizona sparked an era of oil and gas leasing that covered most federal lands (AGS Digest, 1981). To date, no exploratory wells have been drilled in the RMP/EIS area.

GEOTHERMAL

The map of Geothermal Energy Resources of Arizona (1978) indicates several areas in the Lower Gila South RMP/EIS area that have a high heat flow and good prospects for geothermal resources. These areas are defined in the Lower Gila South Wilderness Supplement. Forty-two temperature gradient holes of 300 feet have been drilled in this area. No geothermal leases are currently in effect.

SALEABLE MINERALS

The Lower Gila South RMP/EIS area has a poor potential for saleable minerals, except for a few free-use permits for sand and gravel aggregates.

LOCATABLE MINERALS

The pattern of mining claims within the RMP/EIS area indicates varying degrees of mineral interest. Placer claims are few and not productive. There is a long history of lode mining in all of the mountain regions of the area. Production figures reveal a wealth of many different types of minerals. The mineral potential of those areas is high and there are presently many companies conducting exploration programs throughout the region.

The Minerals and Energy sections of the Lower Gila South Wilderness Supplement describe in detail the mineral resources as they relate to the 12 wilderness study areas in the Lower Gila South RMP/EIS area.

Water Resources

SURFACE WATER

The RMP/EIS area is in the Lower Colorado River region. The majority of the area is in the Gila River basin, with the northwestern portion in the Bouse Wash basin. Perennial streamflow occurs only in the Gila River from its point of entry into the area near Liberty to its impoundment at Painted Rock Reservoir. Controlled releases from the reservoir are conveyed in the river channel to its point of exit from the area near Mohawk. There is a minimum flow yearlong above the reservoir because of the introduction of irrigation and treated sewage effluents along its course from Phoenix to near Arlington.

Streamflow varies greatly in other parts of the area. Peak flows occur in normally dry channels from high-intensity summer thunderstorms or long-duration winter storms. Few other surface water sources are found in the area, although some springs and earthen reservoirs provide a dependable supply of water to livestock and wildlife during most of the year.

GROUNDWATER

Wells are the most dependable source of water in the area. The most important aquifers are the valley and fan deposits of alluvial fill in the Salt River Valley, Gila Bend, Harquahala, Ranegras Plain, and Lower Gila basins. Wells in these basins yield up to several hundred gallons per minute. Other sources of groundwater are wells along fractures in crystalline and metamorphic rock formations. These wells yield from five to 10 gallons/minute as an average. There are no known artesian wells. Most grazing allotments in the area have at least one well supplying water to livestock and wildlife.

WATER QUALITY

Surface water quality data is limited to the Gila River and Painted Rock Reservoir. Data from the U.S. Geological Survey and Arizona Department of Health Services' water quality stations illustrate the influence of irrigation and sewage effluents on the condition of the river and reservoir. Recent discovery of toxic pollutants has generated concern for public health and the ecology of the river. Other contaminants, such as sediments and nutrients, resulting from activities on public lands in the area may become introduced to the Gila River but their effects are unknown.

Groundwater quality in the major aquifers is generally good for most uses in the area, except along the Gila River where irrigation occurs. Total dissolved solids

(TDS) for the area's groundwater range from 200 to 1,000 milligrams per liter. Some wells along the river have TDS values near 10,000 milligrams per liter (mg/l). This corresponds to an increased salinity of irrigation water that returns to the groundwater reservoir. Throughout the area, groundwater quality is highly variable due to local geologic and recharge conditions of the wells.

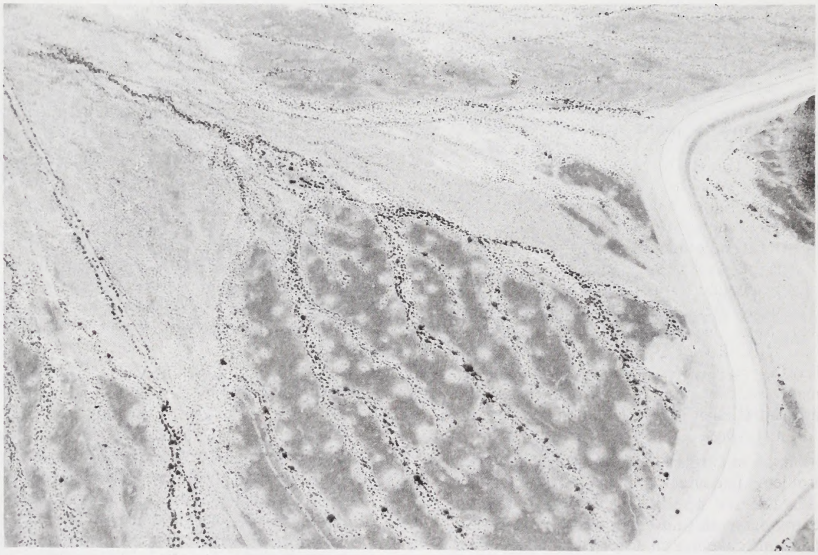
Soils

The Lower Gila South RMP/EIS area covers parts of five counties where soils greatly vary in chemical and physical characteristics and occur in complex patterns. The Soil Conservation Service recently compiled detailed soils information for Maricopa and Pima Counties and most of Yuma County.

Because soils and soil erosion are not major issues in the RMP/EIS area, only significant problem soils and severe critical erosion areas will be discussed and analyzed.

DESERT PAVEMENT SOILS

About 150,000 acres of fragile desert soils are in the RMP/EIS area. A major portion of these fragile soils (desert pavement) is in the western portion of the area. The Crowder-Weisser, Eagle Tail, and Palomas grazing allotments contain large areas of these soils: Ts. 1, 2, 3



Fragile Soils Are Susceptible To Erosion If The Soil Surface Is Disturbed

Desert pavements soils are generally deprived of perennial plants, supporting instead a sparse seasonal cover of ephemeral vegetation. Any soil disturbing projects on fragile soils will be evaluated using site specific environmental assessments, and mitigating measures applied as appropriate.

N.; Ts. 1, 2, 3, 4 S., and Rs. 12, 13, 14, 15, 16 W. The Bighorn grazing allotment southeast of Gila Bend, Ts. 6, 7 S.; Rs. 3, 4 W., and the Artex grazing allotment west of the Painted Rock Mountains, Ts. 5, 6 S., and Rs. 6, 7 W., have moderate amounts of desert pavement soils.

The Cristobal-Ligurta-Chuckwalla soils (desert pavement soils) have a surface layer of dense, varnished desert pavement over a fluffy, strongly saline subsoil. These deep, well-drained soils are on broad, old alluvial fan and fan terraces with slopes from two to 10 percent. Vegetation consists primarily of Turkshead and few annual grasses. These areas are not suited for livestock grazing or other activities that typically disturb the surface layer.

These soils are stable in their present environment. When the very gravelly, loamy surface layer (two inches thick) is destroyed, these soils are subject to severe wind and water erosion. The potential for severe water and wind erosion in the desert pavement substratum layers is caused by the soil's low soil strength, loamy soil textures, and its high soluble salt content. If the fragile soil's substratum is exposed, severe water erosion and soil blowing occur rapidly. It is estimated that less than one percent or about 1,500 acres of the desert pavement areas within the RMP/EIS area are currently in a severe erosion class.

SOIL EROSION AND PRODUCTIVITY

Soil erosion from water in the EIS area is generally low due to low precipitation and the gravelly-cobbly soil surface that protects the soil from raindrop splash and channel runoff. The amount and intensity of rainfall greatly vary, making soil erosion and sedimentation levels difficult to calculate or predict. Sheet and streambank erosion during high-intensity storms cause most soil movement. Most severe-critical erosion conditions exist along the Gila River, Upper Vekol, Cuerda de Lena, and Rio Cornez Washes. Because of excess water flow and heavy livestock use, most allotments in the RMP/EIS area have small areas of eroded soils in and adjacent to drainageways.

Wind erosion in the Lower Gila South RMP/EIS area is a major problem. The areas along and adjacent to the Gila River—Gila Bend, Theba, Mobile, and north of Agua Caliente, Arizona—have severe wind erosion problems. The soils have less than 15 percent vegetative cover and little or no gravel to protect them from the erosive power of wind. The soils generally have a surface layer of sandy loam to clay loam. Weather records show that wind gusts from 40 to 60 miles per hour commonly occur in the summer months in this area. Since most of the soils in the area have moderate amounts of lime in the surface layer, this contributes to soil blowing. Lime in the soil makes the soil particles more easily airborne.

Cultural Resources

EXISTING INFORMATION

A Class I cultural resource inventory report covering southwestern Arizona (McGuire and Schiffer, 1982), the Phoenix District site report files, cultural resource reports from district projects, and permit applications are the sources for existing cultural resource data referred to in this document. Both the 1980 Paleontological Inventory of the Phoenix District and the Geology, Energy, and Mineral (GEM) reports indicate no fossil localities of significant importance or interest in the RMP/EIS area (BLM, 1980; Geoexplorers, Inc., 1982). (See Glossary for an explanation of cultural resource classes.)

As of the middle of 1984, about 24,000 acres or 1.2 percent of the Lower Gila South RMP/EIS area had been inventoried at a Class III level, while an additional 12,000 acres or 0.06 percent of the RMP/EIS area had been inventoried at a Class II (sample) level. In total, about 36,000 acres have received some formal inventory work. Approximately 390 sites have been recorded within the RMP/EIS area (this does not include sites recorded on non-BLM lands).

Sensitive site-specific information on archaeological resources is exempt from the disclosure requirements of the Freedom of Information Act and will be made available only to qualified persons with legitimate research interests. For this reason, this narrative does not discuss precise site locations, nor particulars of specific sites.

CULTURAL RESOURCE SITE TYPES

The following information on site types is largely based on information from the Yuma District RMP/EIS (BLM, 1985). Cultural resources within the RMP/EIS area generally can be divided into three categories: prehistoric, historic, and traditional cultural/religious areas. Any location with physical remains or evidence of activity by aboriginal peoples prior to A.D. 1540 is considered a prehistoric site; those with evidence of Euro-Asian peoples from 1540 to modern times are historic. Traditional cultural or religious sites are generally Native American in origin, range in age from prehistoric to modern, and are important for their socio-cultural and religious values. Appendix 17 lists site types, with abbreviated descriptions, according to the above three categories.

There are major gaps in the cultural historic sequence of the Lower Gila South vicinity because of two factors. First, there is a lack of known sites with stratigraphy—a

number of stratified layers with cultural remains built up over time. A lack of these sites is partly because a large proportion of sites are found on desert pavements or heavily patinated (varnished) gravel areas. These unique surfaces do not permit much silt or soil deposition. Thus, many sites or desert pavements are open terrace surface sites where a variety of cultural periods represented by artifacts and features are mingled together on the surface.

Secondly, very few studies have reported a testing program to locate subsurface cultural resources in areas likely to contain buried deposits or in desert pavement areas. Areas with a high likelihood of containing stratified sites include, but are not limited to, the upper banks of the Gila River and nearby bajadas. Due to the lack of stratigraphy and subsurface sampling, very little chronological data is available for the RMP/EIS area.

An archaeological testing program to locate buried cultural resources along the Gila River was conducted by BLM in 1982 (Simonis, 1982). Both terraces and the flood plain were sampled near Dateland, Arizona, but no buried cultural resources were found. However, this study did not conclude that buried cultural resources do not exist here along the Gila River since the sample unit size and number of samples were very small.

EXISTING AGENTS OF SITE DETERIORATION

Table 3-6 lists a number of agents of site deterioration noted during a Class II sample inventory of the 12 WSAs in the Lower Gila South RMP/EIS area.

The magnitude of deterioration on cultural sites by the above agents will be addressed for each WSA in the Lower Gila South Wilderness Supplement.

TABLE 3-6
EXISTING AGENTS OF SITE DETERIORATION
Bureau of Land Management, Phoenix District, Arizona

Agent of Deterioration	Existing Level of Deterioration to Cultural Resources
Erosion	Moderate
Vandalism	Moderate
Livestock Trampling	Low
Road/Utility Construction	Moderate
Off-Road Vehicle Use	Low
Mining	High
Rangeland Developments	Low

SOURCE: Phoenix District files

EVALUATION OF CULTURAL RESOURCES

BLM evaluates cultural resources according to their current and potential uses. Cultural resources can be allocated to one or more of the following seven use categories: (1) public use, (2) socio-cultural use, (3) management use (4) potential scientific use, (5) conservation for future use, (6) current scientific use, and (7) discharged use. These use categories are defined in the Glossary. Any cultural resources discovered in the future will be evaluated using these same categories. BLM also evaluates cultural resources according to the National Register of Historic Places criteria (36 CFR 60).

FREQUENCIES OF SITES AND AREAS LIKELY TO CONTAIN CULTURAL RESOURCES

Based on existing inventory records, an average of 0.01 sites per acre were recorded for all Class III inventoried acres. Projected over the entire RMP/EIS area this figure suggests that approximately 20,350 sites exist here. However, there are no sites within the RMP/EIS area that are listed on the National Register.

The one percent Class II sample survey of 607,532 acres within 12 WSAs resulted in the designation of 218,560 acres having a high probability of yielding cultural resources. Based on these results, 36 percent of the WSA acres are likely to contain cultural resources. Areas in WSAs with a high probability of containing cultural resources have been delineated on maps in the Lower Gila South MSA (BLM, 1983). However, due to a lack of summary reports on survey data, specific areas likely to contain a high density of historic and prehistoric sites within the entire RMP/EIS area have not been determined.

In addition to numerous prehistoric and historic properties within the Lower Gila South RMP/EIS area, a variety of traditional cultural/religious sites have been noted during ethnological studies conducted for the Palo Verde Nuclear Generating Station, and Palo Verde to Devers and APS Interconnect rights-of-way. Based on a number of interviews with Maricopa, Pima, Papago, Yavapai, Cocopah, and other Native Americans, some general areas were defined as having traditional cultural religious significance (Woods, 1982; Westec, 1980, 1982; Cultural Systems Research, Inc., 1978). Traditional cultural/religious sites include both artifacts or features which may be impacted on the ground, as well as resources of concern to existing tribes.

Several sites of significance in the RMP/EIS area are worthy of mention. One extensive petroglyph and ceremonial site along the Gila River has been inventoried by several rock art field schools of the American Rock Art Research Association and is eligible for a major public interpretive exhibit-in-place. Also, there are a number of trail and shrine sites in the Bouse area which have been identified as having traditional cultural/religious significance to the Colorado River Indian tribes.

Recreation

Based on input from public land users and BLM, city, county, state, and other government agencies, recreation was not considered to be an issue in the Lower Gila South RMP/EIS area. Consequently, BLM recreation visitor use inventories necessary for the calculation and quantification of visitor use data for the entire RMP/EIS area were not completed. Recreation visitor use, however, is estimated for the 12 WSAs in the RMP/EIS area. The miles of vehicle ways and roads and the Visual Resource Management (VRM) Class acres within the WSAs have also been calculated.

Present recreation use is estimated to be 10,000 visitor days per year in the 12 WSAs, which contain 366.50 miles of vehicle ways and 7.35 miles of roads. There are 132,842 VRM Class II acres, 361,305 VRM Class III acres, and 113,410 VRM Class IV acres in the 12 WSAs.

Although much of the RMP/EIS is considered to be relatively remote and sparsely populated, extensive recreation use does occur. Most of the dispersed recreation is in the form of off-road vehicle use, hunting, hiking, camping, sightseeing, or rock collecting. The RMP/EIS area is undesignated relative to off-road vehicles and is therefore considered open for use by this activity. Concentrated recreation activity is predominant in or near the population centers of Buckeye, Gila Bend, and Ajo, Arizona where sites have been developed specifically for recreational pursuits.

Economic Conditions

To describe the economic conditions relating to the Proposed Action and its alternatives, BLM specialists identified an area surrounding the Lower Gila South RMP/EIS area in which residents might be economically impacted. Named the economic study area (ESA), this area includes Maricopa, Pima, and Yuma Counties, Arizona.

EMPLOYMENT

In 1982, 995,000 persons were employed in the ESA, representing 83 percent of Arizona's total employment of 1.20 million. Employment in the ESA is heavily dependent on the economies of Phoenix and Tucson in Maricopa and Pima Counties, respectively. Employment in Maricopa and Pima Counties represents 96 percent of the total employment in the ESA.

An analysis of the ESA's 1982 employment sectors shows that the services sector is the largest employment sector with 20 percent, followed by the retail trade sector with 17 percent, and the government sector with 17 percent. The mining sector employs 5,000 persons and represents less than one percent of the total employment in the ESA (Table 3-7).

TABLE 3-7
1982 EMPLOYMENT BY COUNTY
Bureau of Land Management, Phoenix District, Arizona

	Maricopa		Pima		Yuma*		3-County Totals	
	Persons	%	Persons	%	Persons	%	Persons	%
Proprietors (Farm & Non-Farm)	53,680	7	17,215	8	3,326	8	74,221	7
Farm	5,716	1	590	1	3,856	8	10,162	1
Agriculture Services & Forestry	7,002	1	898	1	5,208	13	13,108	1
Mining	456	1	4,555	2	56	1	5,067	1
Construction	44,304	6	11,855	5	1,810	4	57,969	6
Manufacturing	111,522	15	25,863	12	1,547	4	138,932	14
Transportation & Utilities	32,191	4	8,731	4	1,184	3	42,106	4
Wholesale Trade	40,112	5	5,871	3	1,666	4	47,649	5
Retail Trade	129,083	17	36,853	17	5,777	14	171,713	17
Finance, Insurance, & Real Estate	50,834	7	8,839	4	824	2	60,497	6
Services	149,746	20	46,696	21	5,052	13	201,494	20
Government	114,707	16	47,745	22	10,078	25	172,530	17
TOTALS	739,353	100	215,711	100	40,384	100	995,448	100

* La Paz County was not created until January 1, 1983; therefore these 1982 statistics for Yuma County include the La Paz County totals.
SOURCE: Regional Economic System, Bureau of Economic Analysis

EARNINGS

In 1982, earnings in the ESA amounted to 16.8 billion, representing 84 percent of the state's total employment earnings of $19.9 billion. Earnings in Maricopa and Pima Counties represent 97 percent of the total 1982 earnings in the ESA. The 1982 total earnings from various employment sectors in the ESA are shown in Table 3-8.

TOURISM AND TRAVEL

Tourism and travel expenditures in the ESA amounted to $2.47 billion in 1980 (Valley National Bank, 1983), representing 68 percent of the total spent statewide. A BLM study showed that wilderness recreationists in Arizona spend an average of $7.64 per 24-hour wilderness visitor day and the average trip length to visit Arizona wilderness was found to be 2.47

TABLE 3-8
1982 EARNINGS BY INDUSTRY (IN THOUSANDS)
Bureau of Land Management, Phoenix District, Arizona

	Maricopa		Pima		Yuma*		3-County Totals	
	Earnings	%	Earnings	%	Earnings	%	Earnings	%
Farm	143,713	1	4,910	1	60,977	12	209,600	12
Agriculture, Services & Forestry	71,002	1	12,303	1	36,068	7	119,373	1
Mining	10,138	1	157,747	4	1,357	1	169,242	1
Construction	1,053,794	8	225,412	6	41,370	8	1,320,576	8
Manufacturing	2,671,980	20	644,927	18	24,149	5	3,341,056	20
Transportation & Utilities	885,272	7	233,770	7	30,266	6	1,149,308	7
Wholesale Trade	892,911	7	115,379	3	28,437	5	1,036,727	6
Retail Trade	1,512,637	12	395,702	11	61,384	12	1,969,723	12
Finance, Insurance, & Real Estate	984,675	8	150,218	4	12,490	2	1,147,383	7
Services	2,558,201	19	719,686	21	73,505	14	3,351,392	20
Government	1,998,564	16	848,054	24	152,790	29	2,999,408	18
TOTALS	12,782,887	100	3,508,108	100	522,793	100	16,813,788	100

* La Paz County was not created until January 1, 1983; therefore these 1982 statistics for Yuma County include the La Paz County totals.
SOURCE: Regional Economic System, Bureau of Economic Analysis

days (BLM, 1983a). No data is available on existing recreation use in any of the twelve WSAs analyzed in this RMP/EIS.

RANCH ECONOMICS

The total allowable animal unit months (AUMs) in Section 3 Lower Gila South RMP/EIS area allotments amount to 63,974 of which 59,012 or 94 percent are from BLM land. The other six percent are state and privately owned lands—also termed "controlled" lands. The five-year (1976–1981) average licensed use on federal, state, and private lands amounts to 39,950 AUMs of which 37,185 or 93 percent are from public lands. The allowable use AUMs on public lands amount to 25 percent of the Phoenix District total (BLM, 1979).

The economic analysis of ranch enterprises in the RMP/EIS area will be through the use of representative ranch budgets. These budgets are used to determine the economic effect various RMP/EIS alternatives will have on area ranchers and the surrounding ESA (Yuma, Pima, and Maricopa Counties).

Ranch Size Classes. Ranchers in the RMP/EIS area were divided into three size classes based on their authorized grazing preference on federal, state, and private lands. The following size classes were used: 0–99 head per ranch (42 cows typical), 100–299 head (140

cows typical), and 300 head and over (518 cows typical). Information pertaining to each size class is shown in Tables 3-9 and 3-10 and in Appendix 18.

TABLE 3-9
OPERATOR SIZE CLASSES--LOWER GILA SOUTH RMP/EIS AREA
Bureau of Land Management, Phoenix District, Arizona

Size Class (Number of Cows)	Number of Operators	Number of Allotments	Authorized Grazing Preference		BLM Dependency (Percent)
			Federal & Controlled	Federal	
Small (0 - 99)	4	4	2,268	1,882	83
Medium (100-299)	6	7	11,623	11,164	96
Large (300-over)	7	11	50,083	45,966	92
TOTALS	17	22	63,974	59,012	92

SOURCE: Phoenix District files

TABLE 3-10
TYPICAL RANCH INFORMATION--LOWER GILA SOUTH RMP/EIS AREA
Bureau of Land Management, Phoenix District, Arizona

Production Parameters	Size Class		
	Small (0-99)	Medium (151-300)	Large (301-Over)
Herd Parameters			
Brood Cows (Number)	42	140	518
Bulls (Number)	3	10	34
Replacement Rate	17%	16%	15%
Cow Death Loss	5%	5%	4%
Calf Death Loss	5%	5%	6%
Calving Percentage	79%	76%	70%
Source of Feed (AUMs)			
BLM	465	1,855	6,077
State	50	30	357
Private	67	47	718

SOURCE: Lower Gila South Ranch Budgets

Ranch Budgets. Budget and time limitations prevented BLM from gathering specific information about ranch operating costs and returns in the RMP/EIS area. For this reason, it was necessary to use cost and return information gathered during the Lower Gila North planning effort to develop the Lower Gila South ranch budgets. In addition, personnel from the Lower Gila Resource Area and RMP/EIS area ranchers provided information where necessary.

Table 3-11 and Appendix 19 present the representative ranch budgets that were prepared for the RMP/EIS area ranchers. Gross revenue, cash costs, noncash costs, and various income measures are shown for each of the three size classes.

The ranch budgets focus on net revenue, which is calculated by subtracting the revenue derived from the sale of cattle (gross revenue) from the ranch cash costs. Net revenue estimates the amount of cash available to the rancher to provide for the living expenses of the ranch family, to purchase new machinery and improvements, and to service outstanding long-term debts. Also shown on the budgets is the value of family labor. This represents the dollar value of the ranch family's labor used to operate the ranch for one year. Connected with the value of family labor is the return above net revenue and family labor which estimates the ranch's net income after the cash costs and the value of family labor are subtracted.

Small Ranch. The representative small ranch in the 0-99 head size class was found to market an average of 24 calves and five cows per year. Gross revenue from the sale of these cattle amounts to $7,698 per year. Cash costs amount to $3,955, producing a net revenue of $3,743. The charge for family labor amounts to $2,164 for the typical small ranch. Subtraction of the value of family labor leaves a net income of $1,579 which is left for the rancher to purchase new machinery and range improvements and pay off existing long-term debts.

Medium Ranch. The representative medium ranch in the 100-299 head size class was found to market 79 calves and 15 cows per year. Gross revenue from the sale of these cattle amounts to $24,668. Cash costs amount to $13,080, producing a net revenue of $11,588. Subtraction of a family labor charge of $12,000 leaves a net loss of $412 per year.

Large Ranch. The representative large ranch operation in the 300 or larger head size class sells 262 calves and 57 cows per year. Gross revenue for this operation amounts to $80,099 and cash costs amount to $45,236, producing a yearly net revenue of $34,863. Family labor for this operation amounts to $12,000 yearly. Subtraction of this charge from the net revenue leaves a net income of $22,863.

TABLE 3-11
REPRESENTATIVE RANCH BUDGETS[1]
(Existing Situation)
Bureau of Land Management, Phoenix District, Arizona

Item	Ranch Size		
	Small (42 Cows)	Medium (140 Cows)	Large (518 Cows)
Revenue[2]	$7,698	$24,668	$80,099
Cash Costs[3]	3,955	13,080	45,236
Net Revenue	3,743	11,588	34,863
Less Family Labor	(2,164)	(12,000)	(12,000)
Net Income	1,579	(-412)	22,863

[1] A more detailed version of these budgets is included in Appendix 19.
[2] Revenue is derived from the sale of calves, yearlings, and cull cows.
[3] Cash costs include grazing fees, salt and mineral purchases, veterinary medicine, trucking, marketing, hired labor, machinery fuels and repairs, and interest on operating capital.
SOURCE: USDA Economic Research Service

Ranch Finance. The rancher's ability to borrow money is determined by many factors, including assets, current liabilities, and the ranch's profitability. BLM grazing leases are commonly bought and sold. These leases are valued based on the number of animal units that can be stocked on that grazing lease. The current market value of leases in the RMP/EIS area is estimated to be $125 per AUM or $1,500 per cow yearlong. Although BLM does not recognize the right to treat grazing permits as real property, these permits are bought

and sold and used as collateral for loans. At a value of $1,500 per animal unit, the value of the typical small ranch in the RMP/EIS area would amount to $72,000. The typical medium-size ranch would be valued at $241,500 and the typical large ranch would be valued at $894,000.

REGIONAL ECONOMICS

Total gross receipts from the sale of livestock for the 17 livestock operators on the 22 perennial-ephemeral allotments in the RMP/EIS area amount to $739,493 annually. Ranches in the RMP/EIS area produced less than one percent of the total livestock products produced in the three-county ESA, which amounted to $428 million in 1979 (Arizona Crop and Livestock Reporting Service, 1980). Annual operating expenditures of the RMP/EIS area ranches amount to $410,952, leaving a total yearly net revenue of $328,541 (Appendix 20).

Ranch labor requirements for the 17 perennial-ephemeral ranches in the RMP/EIS area amount to 13.8 work years (Appendix 21), which represents less than one percent of the 10,162 persons employed on farms in the three-county ESA.

Social Elements

This section discusses two types of social elements—population and public attitudes—that could be affected by the proposed wilderness alternatives. These social elements are described on two levels of generalization, local and regional. The local level consists of the residents of the Lower Gila South (LGS) RMP/EIS area. The LGS RMP/EIS area is in portions of six census county divisions (CCDs) within Maricopa, Yuma, La Paz, Pima, and Pinal Counties. Census county divisions are geographically based population units on which the U.S. Census Bureau maintains detailed statistics.

A comparison of the CCD map with the LGS RMP/EIS area reveals that only a portion of each of the six CCDs is contained in the RMP/EIS area. An estimate of the total population in this area was made by approximating the number of people who live in the portion of the CCDs included in this area. The region considered here for the Lower Gila South RMP/EIS area comprises the total five county populations (Maricopa, Yuma, La Paz, Pima, and Pinal). This region includes the two standard metropolitan statistical areas (SMSAs) of Phoenix and Tucson. Table 3-12 shows population data for the local and regional levels. Population data displayed in this table indicate that the region in 1980 had more than two million residents while the local population had 18,710 residents.

TABLE 3-12
LOCAL AND REGIONAL POPULATION 1980
Bureau of Land Management, Phoenix District, Arizona

County Census Division	1980 Population	Percent in the LGS Planning Area	Total LGS Population
Buckeye	11,223	70	7,856
Gila Bend	4,902	60	2,940
Wellton	6,508	15	976
Parker	11,467	05	573
Ajo	5,978	90	5,380
Maricopa-Stanfield	3,940	25	985
Totals	44,018		18,710

County	1980 Population
Maricopa	1,508,030
Yuma	78,067
La Paz*	12,487
Pima	531,263
Pinal	90,918
Total Regional	2,220,765

* Created January 1, 1983 from northern part of Yuma County.
SOURCE: Lower Gila South Management Situation Analysis, Phoenix District files

PUBLIC ATTITUDES AND EXPECTATION

This description of public attitudes and expectations was obtained from several sources and is documented in the Lower Gila South Management Situation Analysis (MSA). Information comes from published BLM and other federal agency documents, material produced by state and county agencies, and informal interviews with residents in the CCDs.

In general the residents of the local area have a high regard for ranching, are concerned for its future, and do not feel it represents any kind of problem for public land use. Residents of the local area tend to favor efforts that would reduce the amount of land in federal administrative ownership. Generally, they feel that private ownership would be more beneficial. They also feel that development in the area, particularly in the Buckeye and Gila Bend CCDs, is going to place increasingly severe pressure on the federal agencies to release land for expansion.

Table 3-13 identifies the location of the 12 WSAs by CCD. Contacts were made with residents of each of the CCDs with the purpose of determining how "people in the area" felt about wilderness and the specific WSAs. Most of the comments from residents were general questions about the reasons for wilderness and revealed that even though there was no evidence of support, no strong opposition existed either, except in a general sense of resenting what was perceived as "government restrictions."

Interest in WSAs was stronger on the regional level than locally. Some expression of general support came from contacts in the Phoenix metropolitan area who were concerned about the increasing demand for land as a result of population growth.

Native American people in the area indicated that wilderness is not a Native American concept, but any effort to preserve land in a natural state was important.

TABLE 3-13
WSA LOCATIONS IN LOWER GILA SOUTH CCD
Bureau of Land Management, Phoenix District, Arizona

Census County Division	Wilderness Study Area
Wellton	2-125 (New Water Mountains)
	2-126A (Little Horn Mountains West)
	2-127 (Little Horn Mountains)
Wellton-Buckeye	2-128 (Eagletail Mountains)
	2-129 (East Clanton Hills)
Buckeye	2-136 (Face Mountain)
	2-138 (Signal Mountain)
	2-142/144 (Woolsey Peak)
Gila Bend	2-157 (North Maricopa Mountains)
	2-163 (South Maricopa Mountains)
	2-164 (Butterfield Stage Memorial)
Gila Bend-Maricopa/Stanfield	2-172 (Table Top Mountains)

SOURCE: Lower Gila South Management Situation Analysis, Phoenix District

The public involvement phases of this plan also indicated the diverse attitudes toward WSAs at the regional and local levels. Seven hundred and forty-nine letters and contacts were received from groups and individuals. Many of the letters were of a general nature indicating the writer's preference for or opposition to setting public land aside as wilderness.

The data from the BLM registered voter questionnaire (BLM, 1983a) indicated that respondents in the LGS RMP/EIS area are less supportive of wilderness expansion than is the case statewide. This information is generally consistent with the observations drawn from the informal, unstructured interviews of residents in the RMP/EIS area.

Chapter 4

ENVIRONMENTAL CONSEQUENCES

Chapter 4

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ENVIRONMENTAL CONSEQUENCES

Introduction

Chapter 4 discusses the environmental consequences of the five alternatives described in Chapter 2. The Lower Gila South Resource Management Plan/Environmental Impact Statement (RMP/EIS) interdisciplinary team determined that none of the alternatives would significantly impact geology, air quality, topography, or climate. The team also determined that impacts to protected and sensitive plant species are difficult to define because of a lack of site-specific project information. Therefore impacts on protected plants will not be analyzed in this chapter. These plant species are protected by laws and regulations and will be examined in future site-specific environmental assessments.

Management actions will be analyzed in terms of their short- and long-term impacts to the environment. The analysis is designed to provide an overview of the direct or cumulative impacts of the alternatives on each resource and on the RMP/EIS area as a whole. The analysis addresses the impacts associated with particular management actions to resolve the following four issues: rangeland management, wilderness, land tenure, and utility corridors. Site-specific environmental assessments will be performed prior to approval of all projects.

General Assumptions for Analysis

In order to analyze the impacts from the management actions of each alternative it was necessary to make general and specific assumptions for the issues.

1. BLM will have the funding and work force to implement and supervise the selected alternative.
2. Impacts are direct unless otherwise noted.
3. Impacts will be monitored and management adjusted as necessary, based on new data from evaluation and monitoring procedures.
4. Short-term impacts occur within five years and long-term impacts occur from five to 25 years after implementation of the plan.
5. All impacts are long-term unless otherwise stated.
6. Environmental assessments (including categorical exclusions) will be conducted prior to implementing any activity plans.

Specific Assumptions

RANGELAND MANAGEMENT

1. Adjustments in livestock numbers would be based on data gathered from the rangeland monitoring program in coordination and consultation with the livestock operator and other affected groups.
2. Projected increases in available livestock forage are based on improved livestock distribution which would result from new rangeland developments.

WILDERNESS

1. Wilderness impact conclusions are based on reasonable probabilities and do not necessarily represent a worst case situation.
2. WSAs will be managed under BLM's Interim Management Policy until either designated wilderness or released by Congress.
3. Lands recommended as preliminarily suitable for wilderness preservation will undergo a U.S. Geological Survey/Bureau of Mines (USGS/BM) mineral survey, the results of which will be received before a final recommendation concerning wilderness suitability is forwarded to the President.
4. Lands recommended as nonsuitable for wilderness preservation will be released from wilderness review.
5. If an area is designated wilderness, the Wilderness Management Policy will be used as a guide for those activities that are permissible. A wilderness management plan will be developed within two years after a WSA is designated wilderness.
6. Any area designated wilderness will be withdrawn from all forms of appropriation under the mining laws as of the date of designation, but would still be subject to valid existing rights.
7. All state or private land inholdings or nonfederal minerals within an area designated wilderness

may be acquired by BLM through purchase or exchange if the state or private land owners agree to the acquisition. BLM must allow access to such inholdings or minerals, but can regulate routes and modes of access to reduce adverse environmental impacts.

8. BLM will manage designated wilderness areas to meet visual resource management Class I objectives, while considering valid existing rights.
9. BLM will not recommend reclassification of air quality standards for wilderness areas from the existing Class II to the more restrictive Class I. Air quality classifications are the responsibility of the state.
10. Livestock grazing will be maintained at present levels unless adjusted for reasons prescribed through range management.
11. Range, wildlife, and other facilities installed or maintained by customary methods may be allowed when site-specific environmental assessment shows wilderness resources will not be impaired.

WILDLIFE

It is assumed that BLM's land disposal proposals will not include land needed for:

1. management of habitat for federally listed threatened and endangered species or state-listed threatened species, including Gila River riparian habitat which supports: Yuma clapper rail, osprey, great and snowy egret, and black-crowned night heron;
2. sonoran pronghorn habitat which lies west of State Route 85; and
3. crucial desert bighorn sheep habitat, crucial desert tortoise habitat, land needed for space requirements of bighorn sheep or land which if developed would block important sheep migration routes.

SOILS AND WATER

1. The ecological condition and trend of the rangeland is an indicator of condition and trend of the associated watershed.
2. Demand for more water will continue to grow with the economy of the region, which will increase the need to protect the quality and quantity of the resource for all uses.
3. Floodplain management and protection of wetlands will continue in accordance with Executive Orders 11988 and 11990 and Bureau Manuals 6740 and 7260.
4. Changes in water quality of runoff are proportional to the changes in erosion and runoff (water quality refers principally to sediment production).
5. Water rights necessary for protecting the Bureau's uses and needs of water for public land management purposes are secure under state law and administrative procedures.

MINERALS AND ENERGY

None of the proposals for rangeland management and utility corridor issues would impact the minerals program in the RMP/EIS area. Therefore, only the impacts from the wilderness and land tenure issues will be further discussed in this analysis.

RANCH ECONOMICS

The ranch economics section assumes that ranchers will stock cattle up to their authorized grazing preference and all figures given in the analysis are based on authorized grazing preference numbers.

Proposed Action

IMPACTS ON RANGELAND MANAGEMENT

The number of livestock or season of use would not be altered on any of the Maintain or Custodial allotments (60,524 AUMs), thus causing no significant short-term impacts to livestock operations in the Lower Gila South RMP/EIS area. Rangeland specialists would evaluate rangeland condition and trend studies at the end of up to a five-year monitoring phase. The results of rangeland monitoring would help determine if grazing adjustments would be needed to meet key species' physiological requirements or if downward trends have reversed on allotments showing downward trends in rangeland condition. All adjustments would be approved only when compatible with other resources.

The construction of new rangeland developments (Table 2-1) would improve livestock distribution on 14 allotments involving 1,161,157 public acres. These developments would reduce livestock stress, eliminating the need to trail long distances to and from water

sources. Improved livestock distribution would also increase the availability of livestock forage which would result in an increase of approximately 1,376 animal unit months (AUMs) in the long term (see Appendix 11) and provide for the improvement of areas now displaying downward trends but that have potential to respond to changes in grazing management.

This proposal identifies four areas (189,750 acres) as suitable for wilderness designation. Portions of seven perennial-ephemeral allotments and four ephemeral allotments overlap into the wilderness study area (WSA) boundaries (Table 4-1). Any rangeland developments proposed within wilderness boundaries must meet the criteria in BLM's Wilderness Management Policy. Construction of new rangeland developments is permissible when it is determined to be necessary for the purpose of effective management of the rangeland. To reduce the visual impacts, new rangeland developments in WSAs may have to be built and maintained with natural materials. Construction and maintenance cost would thus increase, depending on the type of development and its location.

Conclusion. No adverse impacts to livestock operators would occur from implementing the *Proposed Action*. No livestock adjustments are proposed initially until rangeland monitoring studies are completed. Construction of new rangeland developments would allow for an increase of 1,376 AUMs in the long term. Wilderness designation would not significantly impact those portions of seven perennial-ephemeral and four ephemeral allotments that overlap the four WSAs.

IMPACTS ON VEGETATION

Changes in rangeland condition vary over time, depending on trend, site potential, climatic conditions, natural seed sources, and the effectiveness of rangeland developments.

Currently only 10 percent or 154,500 acres of the perennial-ephemeral allotments are in poor condition (Appendix 15). These are areas that have been historically grazed and represent areas surrounding existing water sources.

Thirteen perennial-ephemeral allotments displaying upward apparent trends in rangeland condition (Appendix 15) would continue to improve under present grazing management until their potential is reached. Rates of improvement would depend on trend, site potential, climatic conditions, natural seed sources, and the effectiveness of rangeland developments. New rangeland developments on 14 perennial-ephemeral allotments (Table 2-1) would improve livestock distribution and reduce grazing pressure on areas currently exhibiting poor or downward apparent trends (five percent or 69,600 acres) in rangeland condition in the long term.

Rangeland condition on the 18 ephemeral allotments (Custodial) would not change under this alternative in the short or long term. These allotments are grazed only during years when emphemeral forage has the potential to become available.

Conclusion. No significant impacts to vegetation would result from implementing the *Proposed Action*. Allotments displaying poor rangeland conditions and downward apparent trends would improve through the construction of new rangeland developments.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of 24,120 acres of the New Water Mountains WSA, 70,230 acres of the Eagletail Mountains WSA, 61,000 acres of the Woolsey Peak WSA, and 34,400 acres of the Table Top Mountains WSA would ensure the protection and preservation of their wilderness and associated resource values.

Wilderness designation of these four areas would have short- and especially long-term beneficial impacts on their wilderness and associated resource values by providing protection from most surface-disturbing activities. Withdrawal from mineral exploration and development, closure to motorized vehicles, and prohibition of new rights-of-way, disposal or other land actions would preserve their natural character. Opportunities for outstanding solitude and primitive recreation experiences in a natural setting would be increased and protected for nonmotorized recreationists. Hiking, backpacking, camping, walk-in hunting, sightseeing, and nature study would be the primary activities benefited by wilderness designation.

Protection of wilderness values in these four areas would also benefit supplemental resource values present. The quality of wildlife habitat, cultural resources, soils, vegetation, protected plant species, and scenic and visual resources would be maintained. Long-term benefits would be provided by preserving lands to permit natural ecological processes to continue with little or no human interference.

Crucial desert bighorn sheep habitat would be maintained in all four areas, while crucial desert tortoise habitat would be preserved in the New Water Mountains and Table Top Mountains. Desert pavement soils, vegetation, and protected plants found in all four areas would be protected by the restriction or elimination of mining and motorized vehicle use. Two significant Sonoran Desert botanical areas, located in the Table Top and Eagletail Mountains WSAs, would be enclosed by wilderness, thus ensuring their continued long-term value for nature study and scientific and educational use. Scenic and visual values would be preserved by a visual resource management (VRM) Class I designation. Class I objectives and management requirements allow little to no change in the natural landscape.

TABLE 4-1
PERCENTAGES OF ALLOTMENTS WITHIN WSAS BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

WSAs Allotments	Allotment Designation*	Proposed Action	No Action/ Resource Production	Resource Protection	Environmental Protection
New Water Mountains					
Crowder-Weisser	P-E	10	0	10	17
Little Horn Mountains West					
Crowder-Weisser	P-E	0	0	0	3
Eagle Tail	P-E	0	0	0	2
Ranegras Plain	P-E	0	0	0	2
Little Horn Mountains					
Crowder-Weisser	P-E	0	0	0	3
Eagle Tail	P-E	0	0	25	30
Ranegras Plain	P-E	0	0	3	30
Eagletail Mountains					
Eagle Tail	P-E	37	0	37	56
Ranegras Plain	P-E	1	0	1	5
Clem	P-E	0	0	0	2
East Clanton Hills					
Eagle Tail	P-E	0	0	0	6
Palomas	E	0	0	0	23
Face Mountain					
Amavisca	E	0	0	34	34
Mariani	E	0	0	13	14
Gable-Ming	P-E	0	0	13	14
Signal Mountain					
Gable-Ming	P-E	0	0	0	17
Woolsey Peak					
Gable-Ming	P-E	11	0	11	11
Gila River Community	E	52	0	52	57
Hazen-Sheppard	E	0	0	0	77
Dendora Valley	E	19	0	19	19
Jagow Kreager	E	34	0	34	34
North Maricopa Mountains					
Conley	P-E	0	0	7	7
Hazen	P-E	0	0	30	41
Beloat	P-E	0	0	17	21
Bighorn	P-E	0	0	11	14
South Maricopa Mountains					
Conley	P-E	0	0	0	22
Bighorn	P-E	0	0	0	26
Lower Vekol	P-E	0	0	0	43
Butterfield Stage Memorial					
Conley	P-E	0	0	0	3
Bighorn	P-E	0	0	0	4
Table Top Mountains					
Conley	P-E	50	0	50	50
Bighorn	P-E	19	0	19	23
Lower Vekol	P-E	23	0	23	41

* E = Ephemeral; P-E = Perennial-Ephemeral
SOURCE: Phoenix District files.

View Of Arid Gila Bend Mountain Range From Woolsey Peak—Woolsey Peak WSA.

Designation of the four areas would add to the diversity of the National Wilderness Preservation System (NWPS) in Arizona. Wilderness would provide increased solitude and primitive recreation opportunities for residents of five standard metropolitan statistical areas (SMSAs). The geographic distribution of wilderness within Arizona would also be enhanced by the placement of four areas in southwest Arizona. The Organ Pipe Wilderness (National Park Service) is the only wilderness presently in this area.

Designation of the four areas recommended for wilderness by the *Proposed Action* would not add new ecosystems to the NWPS but would contribute additional areas and acreage to two American Desert province ecosystem types: paloverde-cactus shrub and creosotebush-bursage.

All four areas recommended for wilderness designation are considered manageable as wilderness over the long term. Mining activities could affect wilderness manageability, but mining would be restricted to valid claims with valid existing rights at the time of wilderness designation. ORV use might occur in some portions of the Eagletail Mountains and Table Top Mountains WSAs due to the absence of terrain or plant features along some boundaries to preclude such activity. The impacts of such uses are considered insignificant to wilderness manageability over the long term.

Parcels of nonfederal surface and mineral inholdings lie within the suitable boundary of the Eagletail Mountains. If these lands were developed in the future, it could have negative effects on the area's wilderness values. Another potential impact exists because access must be provided. Acquisition through land exchange of 2,643 acres of state surface and mineral lands and 561 acres of state mineral rights within the Eagletail Mountains WSA could facilitate wilderness management of the area and enhance botanical, wildlife, wilderness, and related multiple resource values. Acquisition of the above acreage would allow such parcels to be incorporated into the Eagletail Mountains wilderness proposal.

Nondesignation and a return to multiple use management of eight entire WSAs (Little Horn Mountains West, Little Horn Mountains, East Clanton Hills, Face Mountain, Signal Mountain, North Maricopa Mountains, South Maricopa Mountains, and the Butterfield Stage Memorial) and portions of four WSAs (New Water Mountains, Eagletail Mountains, Woolsey Peak, and Table Top Mountains) would result in the loss or degradation of their wilderness values over the long term. Land uses detrimental to wilderness and supplemental values could be permitted, including mineral and energy development, rights-of-way and other land actions, and motorized vehicle use.

Wilderness Designation Would Provide Protection To Valuable Resources.

Wilderness designation of WSAs such as the Table Top Mountains would protect cultural, botanical, and wildlife values by restricting any surface disturbing projects within WSA boundaries.

Mineral exploration and development could occur in all these areas as they would remain open to mineral entry. Existing and future mining claims and leases would not be subject to wilderness constraints. Surface disturbances caused by road construction, exploration, and assessment work are likely under multiple use management. If development occurred, there could be adverse impacts to wilderness resources. Mineral development could have long-term, irreversible and irretrievable impacts on the wilderness resource.

Motorized vehicle use, new rights-of-way, and other land actions could diminish or eliminate the natural character of nondesignated areas. New access roads would allow vehicles into previously inaccessible areas. Outstanding opportunities for solitude and primitive recreation experiences could be significantly reduced or permanently lost.

The areas not designated wilderness could revert to VRM Class II, III, or IV visual management protection objectives. These VRM classes pose fewer restrictions on layout, design, and construction of proposed developments than the Class I objectives required by wilderness. Contrasts in the landscape resulting from developments could be more noticeable since projects affecting the scenery might be allowed.

The ability of nondesignated areas to enhance the present diversity of the NWPS would be lost. Additional wilderness opportunities for residents of five SMSAs would be forgone by nondesignation of these areas as well. BLM feels, however, that recommending portions of the New Water Mountains, Eagletail Mountains, Woolsey Peak, and Table Top Mountains as suitable for wilderness offsets adverse impacts to

wilderness diversity in Arizona. Overall impacts to wilderness diversity are not considered significant.

Conclusion. The eight entire WSAs and portions of four others not recommended as suitable for wilderness designation (417,807 acres) have a moderate to high potential for degradation or loss of natural values if not designated wilderness, primarily a result of mineral development, motorized vehicle use, and rights-of-way development. These areas' natural character, opportunities for solitude and primitive recreation, and special features could be damaged or lost over the long term. These are considered permanent losses.

For the portions of four WSAs (189,750 acres) recommended suitable for wilderness designation (New Water Mountains, Eagletail Mountains, Woolsey Peak, and Table Top Mountains) there would be short- and long-term beneficial impacts to the wilderness resource by preserving the natural values, outstanding opportunities for solitude and primitive recreation, supplemental values, and by enhancing the geographic diversity of the NWPS in Arizona.

IMPACTS ON LAND USES

Conclusion. The *Proposed Action* would not conflict with any current land uses. However, designation of portions of four WSAs (New Water Mountains, Eagletail Mountains, Woolsey Peak, and Table Top Mountains—189,750 acres) would preclude some future land uses from these areas (rights-of-way for roads, powerlines, pipelines, and communication sites).

The *Proposed Action* would benefit the lands program by designating utility corridors and by allowing the BLM and State of Arizona to pursue the land tenure adjustments needed to develop a more manageable ownership pattern.

IMPACTS ON WILDLIFE

Rangeland Management Issue

Mule Deer. The *Proposed Action* would maintain existing levels of yearlong grazing. The major conflict under existing circumstances is between cattle and mule deer in desert washes which interlace creosotebush-bursage habitat. Cattle congregate in washes for shade and consume most of the quality forage growing along the banks. Deer move to areas of low livestock use, usually in the foothills of major mountain groups. Ongoing conflict between cattle and mule deer for forage represents a long-term negative impact, especially on the following allotments where use on browse is high: Conley, Beloat, Cameron, Lower Vekol, and Bighorn (Fredlake and Lucas, 1982). Long-term beneficial impacts may occur if monitoring studies call for adjustments in livestock use.

Ten wells and seven reservoirs are proposed for development under the *Proposed Action*. These would provide additional watering points for mule deer and hence provide a marginal benefit. In order for wells to be beneficial, corral fences around troughs must allow deer (especially fawns) easy access, and water must be available during the hot summer months.

Reservoirs in the RMP/EIS area, with few exceptions, dry up in summer months and are not significantly valuable for big game. Cattle congregate in large numbers around waters, resulting in overuse of quality browse (false mesquite, jojoba, ratany, janusia) and trace perennial grasses (bush muhly, slim tridens, three awn). This area of overuse may extend up to a mile from the water source and represents a negative impact on the forage base of big game.

Desert Bighorn Sheep. Forage conflicts occur between cattle and desert bighorn sheep when large numbers of steers are released under ephemeral permits in winter seasons. Steers, unfamiliar with terrain, can drift into bighorn sheep habitat and locate around important bighorn waterholes, thereby competing with sheep for forage and water or transmitting disease.

Bighorn in the RMP/EIS area have been exposed to viral diseases such as blue tongue, epizootic hemorrhagic disease, contagious ecthema, and para-influenza III (DeVoss, 1984). These diseases are transmitted by biting midge flies or direct contact from cattle to bighorn; the more cattle grazing on an allotment with bighorn (even on an ephemeral basis), the greater the likelihood that bighorns will be exposed to disease (Post, 1976). Viral diseases lie dormant in the blood stream and become active when sheep are submitted to undue environmental stress (drought, harassment, competition with cattle), and result in severe mortality in a short period of time. Potential for an outbreak of disease due to livestock use would continue to have a long-term adverse impact to sheep populations. If downward adjustments in livestock use are warranted through monitoring, the exposure to disease would be lessened somewhat. In this respect the proposed level of management would be slightly beneficial for desert bighorn sheep.

The following allotments have the highest potential for bighorn-cattle disease transmission:

Crowder-Weisser	Eagle Tail
Ranegras Plain	Clem
Gable-Ming	Jagow Kreager
Layton	Gila River Community
Dendora Valley	Artex
Hazen Sheppard	Gila Bend Indians
Mumme	Powers Butte
Hazen	Conley

Beloat	Cameron
Childs	Bighorn
Lower Vekol	Vekol
South Vekol	Table Top
Kirian	

Livestock wells, not used by bighorn sheep to any extent, would not be beneficial. If placed within one to two miles of bighorn habitat, livestock wells could increase bighorn/cattle contact and the likelihood of disease transmission to bighorn. This increased contact would be a negative impact.

Proposed fencing could become a significant barrier to migration if constructed perpendicular to routes commonly traveled by bighorn sheep between mountain ranges (Helvie, 1971). Bighorn sheep tend to panic when crossing through barbed wire and can entangle their curved horns, severely lacerating themselves. Unlike deer, bighorns rarely jump fences but try instead to crawl under the bottom strand or step between intermediate strands. There are no particularly good fence designs that deter cattle and allow safe crossing by bighorns.

Overall, long-term impacts of range improvements to desert bighorn sheep would be adverse.

Sonoran Pronghorn. Pronghorn and cattle compete for habitat and perennial forage on the Cameron allotment. At current grazing levels pronghorn habitat value will continue to decline. If monitoring studies call for downward adjustments in livestock use then competition between cattle and pronghorn will be lessened and some long-term improvement in pronghorn habitat may occur.

Sonoran pronghorn will not be affected by rangeland developments recommended in the *Proposed Action*. Pronghorn have not been observed drinking free water and appear to satisfy their requirements in the moisture content of their forage (Arizona Game and Fish Department, 1981). If placed in pronghorn habitat in an area of low livestock use, wells and reservoirs would draw in more cattle and significant forage competition could result.

Javelina. Javelina do not compete significantly with cattle for forage and hence would not be affected by the *Proposed Action*. Two wells proposed for Table Top and Bighorn allotments could slightly benefit javelina if constructed so that this species would have unimpeded access to water, and if the water were available yearlong. This would entail building troughs less than one foot high so young javelina as well as adults could drink.

Desert Tortoise. Desert tortoise primarily inhabit major mountain ranges, foothills, and bajadas. When tortoise awake from hibernation, they rely on winter-spring annuals to provide energy for reproduction, especially when perennial forage is scarce. Drought and heavy livestock use lessen available annuals and threaten tortoise reproduction (Berry, 1978).

When annuals are not present in the spring, perennial grasses and forbs become an extremely important source of forage, and competition from cattle becomes even more critical. Competition between cattle and tortoise is most evident around the fringes of mountains and less evident on steep slopes. No short-term improvement of tortoise habitat is expected. If monitoring studies warrant downward adjustments in stocking rates then competition between cattle and tortoise will be lessened and long-term improvement in tortoise forage condition would occur.

The following allotments have a high potential for cattle/tortoise forage conflicts:

Beloat	Hazen	Conley
Bighorn	Kirian	Vekol
Gable-Ming	Eagle Tail	Crowder-Weisser
Palomas		

Wells and reservoirs, if constructed in desert tortoise habitat, would result in an increase in forage use by cattle and a decrease in forage available for tortoise. This could cause a long-term decline in tortoise habitat in localized areas and would be a significant long-term adverse impact.

Riparian Habitat. Cattle use riparian habitat along the Gila River extensively, browsing on mesquite, willow, and cottonwood trees. Cottonwood reproduction is primarily limited by fluctuating water tables, vegetation clearing, floods, fire, and salt accumulation in the soil, but cattle grazing is also a factor. Cattle do not appear to inhibit establishment of willows and aid in mesquite reproduction, consuming seed pods and depositing scarified seeds in dung. Mesquite seeds, supplied with a rich supply of fertilizer, will sprout and grow, ultimately providing valuable wildlife cover.

Cottonwood trees would probably become slightly more numerous along the Gila River channel if stocking rates were reduced as a result of monitoring studies (Duff, 1978; Platts, 1979; Rickard and Cushings, 1982). Increase in cottonwood trees would provide added foraging areas and nesting areas for nongame birds, nesting habitat for sharp shinned hawks, Cooper's hawks, and other raptors and roosting habitat for egrets and herons (Anderson, Engel-Wilson, Wells, Ohmart, 1977). If rangeland monitoring studies indicate that a reduction in livestock use is necessary, reduced livestock use would result in a slightly beneficial impact to wildlife.

Game Birds and Small Game. The construction of seven livestock wells would result in some benefit to dove and quail by providing additional watering points. Open top storage tanks, and troughs (unless equipped with escape ramps) can cause small game drownings,

however, and no evidence indicates that waters themselves result in significant population increases in quail or doves.

Reservoirs could provide long-term benefits to quail and doves. Mesquite trees establish themselves around the shore regardless of grazing intensity and grow more rapidly than those in the surrounding desert. Excellent dove nesting habitat and quail escape cover is the net result. Cottontail rabbits also benefit from the thorny escape cover. Overall, long-term impacts to small game would be slightly positive.

Shorebirds and Waterfowl. Reservoirs provide some benefit for shorebirds and waterfowl by serving as resting points during seasonal migration; however, few reservoirs hold water yearlong and so do not provide waterfowl nesting habitat. Overall, long-term impacts to shorebirds and waterfowl would be slightly positive.

Conclusion. Table 4-2 summarizes the long-term impacts to wildlife from rangeland management under the five alternatives. Overall, the *Proposed Action* would have slight beneficial impacts to Sonoran pronghorn, mule deer, riparian habitat, waterfowl, small game, and javelina. Adverse or no impacts would occur to desert bighorn, desert tortoise, and the Vekol Valley grassland.

Wilderness Issue

State-Listed Threatened Species (Bighorn Sheep and Desert Tortoise). Two species (both state-listed threatened) would be significantly affected by the Lower Gila South wilderness issue: desert bighorn sheep and desert tortoise. Table 4-3 shows acres of crucial bighorn habitat and crucial tortoise habitat in each WSA and by alternative.

TABLE 4-3
ACRES OF HABITAT PROTECTED UNDER THE PROPOSED ACTION
Bureau of Land Management, Phoenix District, Arizona

WSAs	Crucial Desert Bighorn Sheep Habitat*	Crucial Desert Tortoise Habitat**
New Water Mountains	24,120	5,820
Eagletail Mountains	41,950	0
Woolsey Peak	58,240	0
Table Top Mountains	22,780	4,700
TOTAL	147,090	10,520

* Crucial desert bighorn sheep habitat: habitat necessary to maintain current bighorn populations. Population density varies.

** Crucial desert tortoise habitat: habitat with tortoise population densities of 50 tortoise per square mile or greater. All WSAs contain tortoise populations.

SOURCE: Phoenix District files

TABLE 4-2
LONG-TERM IMPACTS TO WILDLIFE FROM THE RANGELAND ISSUE BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Rangeland Issue	Proposed Action			No Action			Resource Production			Resource Protection			Environmental Protection		
Long-Term Impacts	LM	RD	RM*	LM	RD	RM*	LM	RD	RM*	LM	RD	RM*	LM	RD	RM*
Sonoran Pronghorn	2	-1	2	-3	0	-3	2	-1	2	2	0	2	3	0	2
Desert Bighorn	1	-2	1	-3	0	-3	1	-2	1	1	0	1	2	1	2
Mule Deer	2	0	2	-2	0	-2	2	0	2	2	0	2	3	0	0
Desert Tortoise	2	-2	2	-2	0	-2	2	-2	2	2	0	2	2	0	2
Riparian Habitat	1	0	1	0	0	0	1	0	1	1	0	1	1	0	0
Waterfowl	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Vekol Valley Grassland	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
Small Game	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Javelina	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0

*LM = Level of Grazing Management
RD = Rangeland Developments
RM = Rangeland Monitoring
-3 = Highly significant adverse impact
-2 = Significant adverse impact
-1 = Slightly adverse impact
3 = Highly significant beneficial impacts
2 = Significant beneficial impact
1 = Slightly beneficial impact
0 = Neutral, no impact

SOURCE: Phoenix District files

Desert bighorn sheep would benefit by designation of four WSAs in the Lower Gila South RMP/EIS area. Bighorn sheep require large tracts of habitat relatively undisturbed by human activity. Mining is particularly detrimental since it involves blading roads into mountainous areas previously accessible only on foot or horseback. Once constructed, roads become permanent routes for recreationists, miners, or poachers, and desert bighorn sheep habitat quality is severely degraded.

Limiting mining and other human activities would enhance the desert tortoise by preventing piecemeal habitat destruction. Wilderness designation would also afford some protection from overcollection or vandalism.

Other Wildlife Species. The Arizona Game and Fish Department maintains numerous rainwater catchments within the WSAs' boundaries. These facilities provide water for mule deer, quail, dove, nongame birds, rabbit, and predators. Wilderness designation would still allow for periodic maintenance of these existing catchments and hence result in no impact to wildlife. Construction of new catchments within wilderness areas would be analyzed on a case-by-case basis.

Conclusion. Designation of four WSAs would benefit desert bighorn sheep and desert tortoise. A total of 147,090 acres of crucial bighorn sheep habitat and 10,520 acres of crucial tortoise habitat would be protected under the *Proposed Action*. Table 4-4 summarizes the relative impacts of each alternative to desert bighorn and desert tortoise. Because vehicle access into wilderness areas would be restricted, desert wildlife would suffer less human disturbance and receive a slight positive benefit.

TABLE 4-4
IMPACTS TO SPECIES UNDER EACH ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Species	Proposed Action	No Action	Resource Production	Resource Protection	Environmental Protection
Desert Bighorn Sheep	1	-2	-2	2	3
Desert Tortoise	1	-2	-2	2	3

3 = highly beneficial impacts
2 = significant beneficial impacts
1 = slightly beneficial impacts
-3 = highly adverse impacts
-2 = significant adverse impacts
-1 = slightly adverse impacts
SOURCE: Phoenix District files

Land Tenure Issue

Disposal. In order to analyze long-term impacts of disposal of public lands in the Lower Gila South RMP/EIS area it is assumed that tracts identified for disposal eventually would be sold or exchanged and that these lands would ultimately be subject to development for agricultural, residential, or industrial purposes.

Land disposal would result in three types of development: agricultural, industrial, and high- or low-density residential. High-density residential, agricultural, or industrial developments permanently destroy the habitat, and all native species are extirpated. Low-density residential development (i.e., houses constructed one-eighth to one-fourth mile apart with native vegetation left somewhat undisturbed) results in the emigration of large game animals from the area. Because of human disturbance, smaller species such as quail, cottontail, grey fox, nongame birds, and desert tortoise experience a drop in population. At least one species, coyote, does not seem to be affected by low-density housing.

Some benefits to wildlife might be gained through the land disposal program by trading isolated parcels of BLM land for valuable wildlife habitat in the state. This impact cannot be fully assessed at this time.

Two sensitive species will be unavoidably affected by disposal action and subsequent development: Gila monster and kit fox. The Gila monster is found in all habitats in the Lower Gila South RMP/EIS area. Development of any parcel would result in some loss of habitat for this species. Kit foxes are present in low numbers in the creosotebush-bursage habitat, and land developments would result in unavoidable loss of habitat for this species. Loss of kit fox and Gila monster habitat could be minimized by limiting land disposal to BLM land surrounded by developed land or land on the fringes of development.

Some unavoidable loss of habitat would occur for kit fox and Gila monster under the *Proposed Action*. Habitat loss for other species would be minimal.

Acquisition. Under the *Proposed Action* 8,920 acres of riparian habitat in the Fred J. Weiler Green Belt would be acquired from the State of Arizona or private individuals. These lands would then be protected from clearing for agricultural uses and continue to provide habitat for dove, quail, nongame birds, and endangered or threatened species such as Yuma clapper rail, osprey, great and snowy egret, and black-crowned night heron. This would provide substantial benefits for these species.

Under this alternative, a total of 2,200 acres of crucial desert bighorn sheep habitat would also be acquired by exchange from the state. This acquisition would increase management options for sheep habitat on public lands and benefit that species.

Split Mineral Estate. By acquiring state and private mineral estate underlying BLM lands, more control would be gained over mining activity on those lands. This could be a benefit to wildlife in that certain stipulations could be placed on mining plans of operation to protect or restore wildlife habitat. Site-specific impacts to wildlife habitats in the Lower Gila South RMP/EIS area cannot be further assessed at this time.

Conclusion. Impacts due to land disposal would be slightly adverse. Impacts due to land and mineral acquisition would be beneficial, although the benefit cannot be quantified at this time.

Utility Corridor Issue

Conclusion. The impact of designating corridors along existing routes would be somewhat beneficial for wildlife by limiting future disturbance in other areas. Designating corridors would avoid disrupting habitat and wildlife in new areas.

IMPACTS ON MINERALS AND ENERGY

Conclusion. The *Proposed Action* would negatively impact mineral exploration and development in portions of four WSAs (189,750 acres) that are proposed for wilderness designation. Areas designated as wilderness would be closed to mineral entry and mineral leasing. No prospecting, exploration, or mining would be allowed. A total of 189,750 acres of oil and gas leases and 199 mining claims would be affected. This alternative proposes to drop eight WSAs and portions of four WSAs (417,807 acres) from wilderness study, return these areas to other multiple use management, and allow mineral exploration and development in accordance with the mining regulations (CFR 3802 and 3809). Under multiple use management, exploration and mining are encouraged.

Acquisition of 36,845 acres would be beneficial to mining interests because these areas would be open to mineral exploration and development. Acquiring 112,160 acres of state and private mineral estate would be beneficial by consolidating the split surface and mineral estate of lands in the Lower Gila South RMP/EIS area.

IMPACTS ON SOILS

Most of the RMP/EIS area's severe erosion areas are in and adjacent to the drainageways and the Gila River that are heavily used by livestock. Proposed soil disturbance projects in areas with high soil-blowing and severe-erosion problems would be evaluated on a case-by-case basis in the environmental assessment process. Mitigating measures would be applied as appropriate.

Conclusion. Soils would not be significantly impacted under the *Proposed Action*. Any other proposed soil disturbance project on the fragile soils would be evaluated using site-specific environmental assessments on a case-by-case basis.

IMPACTS ON CULTURAL RESOURCES

Rangeland Management Issue

Under the *Proposed Action* inadvertent or indirect impacts primarily from rangeland developments may occur. Rangeland developments may affect cultural resources in the following ways: (1) loss of the spatial relationships between cultural materials and their surroundings; (2) loss of entire site elements such as artifacts, features, or portions of site areas; (3) loss of historical context, especially information on occupation dates and prehistoric environment; and (4) reduction in the cultural resource base after salvage. The nature and degree of these impacts has not been adequately monitored and documented.

A limited study by Roney (1977), however, found that cattle trampling during livestock grazing significantly damages lithic sites and artifacts. In addition, lithic scatters, rock circles, intaglios, rock alignments, and extensive prehistoric trails typically found in desert pavement areas can be destroyed by cattle trampling (BLM, 1982).

Conclusion. Significant direct impacts from the rangeland management issue on cultural resources would be avoided or mitigated. Concentrated trampling by livestock would have the greatest effect on sites with surface features and structures, which include most of the sites in the EIS area. The significance of these impacts on cultural resources would vary according to the location and condition of the site.

Wilderness Management Issue

Wilderness designation of portions of four WSAs (189,750 acres) would generally benefit cultural resources in these WSAs by decreasing vandalism, road/utility construction, ORV use, and mining. Table 4-5 lists a number of agents of site deterioration and the probable effect of wilderness designation compared to the existing situation for each type of deterioration.

TABLE 4-5
IMPACTS ON CULTURAL RESOURCES*
Bureau of Land Management, Phoenix District, Arizona

Agent of Deterioration	Existing Situation	Impacts of Wilderness Designation
Erosion	Moderate	No Change/ Low Decrease
Vandalism	Moderate	Moderate Decrease
Livestock Trampling	Low	No Change
Road/Utility Construction	Moderate	High Decrease
ORV Use	Low	High Decrease
Mining	High	Moderate Decrease
Range Developments	Low	Moderate Decrease

* Impacts compared to existing situation:
SOURCE: Phoenix District files, Lower Gila South MSA

A Variety Of Prehistoric Sites Occur Throughout The RMP/EIS Area.

BLM proposals provide for protection of cultural sites such as petroglyphs from unnecessary destruction. Wilderness designation would ensure protection and preservation for sites within the WSAs proposed for wilderness designation.

All of the direct impacts to cultural resources, except vandalism, can be mitigated. Vandalism would generally increase with an increased number of visitors in the four designated wilderness areas, however, the overall destruction to sites would probably be much less than that associated with development under multiple use management (BLM, 1982).

Table 4-6 summarizes the acres likely to contain cultural resources that would be protected under each alternative.

Approximately 55 percent or 103,818 acres proposed for wilderness designation under this alternative may contain cultural resources which would be beneficially affected by having added protection (see Table 4-6). In addition, one petroglyph site in the Eagletail Mountains, eligible for the National Register of Historic Places, would have added protection, as well as those portions of the Eagletail Mountains having important significance to the Yavapai and Maricopa Indian groups.

Designation of wilderness would limit the potential for surface disturbance and protect cultural resources. Because mining, road construction, and vandalism have caused moderate to high levels of disturbance to known cultural resources, this alternative would be highly beneficial to the protection of these resources. Public education efforts, as part of wilderness management, would tend to enhance visitor appreciation of cultural resources. BLM's Wilderness Management Policy provides for inventorying and monitoring historic or prehistoric sites with structures in wilderness areas. These inventories and monitoring studies would determine if such sites have scientific and socioeconomic uses. This would help fill the existing data gaps in the

TABLE 4-6
ACRES LIKELY TO CONTAIN CULTURAL RESOURCES
PROTECTED BY WILDERNESS DESIGNATION UNDER EACH ALTERNATIVE*

WSA	Proposed Action	No Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	14,050	--	--	14,050	15,330
Little Horn Mountains West	--	--	--	--	7,180
Little Horn Mountains	--	--	--	28,655	31,535
Eagletail Mountains	55,428	--	--	55,428	62,340
East Clanton Hills	--	--	--	--	11,725
Face Mountain	--	--	--	8,800	9,180
Signal Mountain	--	--	--	--	3,490
Woolsey Peak	21,145	--	--	21,145	26,585
North Maricopa Mountains	--	--	--	4,160	17,880
South Maricopa Mountains	--	--	--	--	14,040
Butterfield Stage Memorial	--	--	--	--	4,480
Tabletop Mountains	13,195	--	--	13,195	14,795
TOTAL ACRES	103,818	--	--	145,513	218,560
PERCENT OF ACRES	55%			45%	36%

SOURCE: Phoenix District files

current knowledge of permanent or semi-permanent historic and prehistoric habitations.

Conclusion. Impacts on cultural resources from the *Proposed Action's* wilderness management issue would be beneficial in general, with added protection for a site eligible to the National Register. Traditional cultural/religious significant areas within the Eagletail Mountains and 103,818 acres with a high probability of containing cultural resources would also have added protection.

Land Tenure Issue

Conclusion. Under this alternative the impacts of management decisions from the land tenure issue on cultural resources would be minimal or nonexistent after all pertinent laws, regulations, and current policies are followed. Furthermore, cultural resources of National Register significance could be brought under federal protection through land ownership adjustments, thereby bringing consolidated areas of prehistoric and historic use under cultural resource management.

Utility Corridors Issue

Future use of 10 corridors (each one-mile-wide) for utility projects and rights-of-way would impact areas which are known to contain cultural and ethnological resources. Several of the utility corridor surveys, as well as BLM Class II and Class III inventories, have recorded a number of significant archaeological sites and Native American cultural/religious areas of significance within the proposed corridor areas.

Impacts on a number of these archaeological sites have been mitigated along several utility corridors for previous projects. Archaeological inventory and mitigation work would eventually be reduced when all corridors have been surveyed and the impacts on all sites mitigated.

The proposed utility corridors could impact a number of traditional cultural/religious areas of significance to Native American groups (see Table 4–7). An irreversible and irretrievable impact to these resources would occur if it were determined that other considerations outweighed the value of protecting such areas.

Conclusion. If other management considerations take priority, impacts from the 10 proposed utility corridors could be adverse to primarily six large areas having cultural/religious significance to Native Americans (Table 4–7).

IMPACTS ON RECREATION

Conclusion. Under the *Proposed Action* 93.55 miles of vehicle ways, 6.0 miles of roads, and 189,750 acres would be closed to vehicle use (Table 4–8). An estimated increase of 4,650 visitor days/year of recreation use is expected under this alternative.

TABLE 4-7
SIGNIFICANT TRADITIONAL CULTURAL/RELIGIOUS AREAS WHICH MAY BE AFFECTED BY UTIITY CORRIDORS
Bureau of Land Management, Phoenix District, Arizona

	Significant Traditional Cultural/Religious Areas					
Utility Corridors	Maricopa Mountains	Mohawk Mountains	Arlington Quad-Palo Verde Hills So. to Gillespie	Gila Bend & Smurr Quads	Gila Bend Mountains*	Painted Rock Mountains
Interstate 10			X			
Interstate 8		X		X		X
Palo Verde-Devers			X			
Santa Rosa-Gila Bend	X					
El Paso Natural Gas			X			
APS-Interconnect			X		X	
Palo Verde-Kyrene			X			
Liberty-Gila Bend				X		
Native American Tribes That Determined Areas	Pima, Sand Papago, & Maricopa	Pima, Sand Papago & Maricopa	Maricopa	Kavelcadom, San Simon	Yavapai, Maricopa, N. Pima, & Papago	Yavapai, Maricopa, & Papago

*Indicates very high significance.
SOURCE: Phoenix District files

TABLE 4-8
SURFACE ACRES AND MILES OF VEHICLE ACCESS OPEN OR CLOSED
TO ORV USE BY THE WILDERNESS ISSUE
Bureau of Land Management, Phoenix District, Arizona

Alternative	No. of Wilderness Areas Designated	Acres to be Closed to ORV Use	Acres to Remain Open to ORV Use	Miles of Vehicle Ways to be Closed to ORV Use*	Miles of Vehicle Ways to Remain Open to ORV Use*	Miles of Roads to be Closed to ORVs**
Proposed Action	4	189,750	417,807	93.55	272.95	6.00
No Action	0	0	607,557	0.00	366.50	0.00
Resource Production	0	0	607,557	0.00	366.50	0.00
Resource Protection	7	324,350	283,207	170.45	196.05	6.00
Environmental Protection	12	607,557	0	366.50	0.00	7.35

* Miles of vehicle ways determined not to meet the definition of a road were approximated through the use of topographic quadrangle maps and a Model 2986 K&E Double Face Map Measure.
** Existing road within WSAs (see Glossary for definition of a road).
SOURCE: Phoenix District files

In addition, under the *Proposed Action* there would be 189,750 acres of public lands managed as VRM Class I and 26,608 fewer acres managed as VRM Class II, 104,910 fewer acres managed as VRM Class III, and 58,232 fewer acres managed as VRM Class IV. The visual resources on 189,750 acres managed as VRM Class I would be better protected through application of the more restrictive Class I management guidelines.

IMPACTS ON ECONOMIC CONDITIONS

This section describes the *Proposed Action's* economic impacts on the RMP/EIS area ranchers and economy of the three-county (Maricopa, Pima, and Yuma) economic study area (ESA). Impacts from expected changes in rancher income, recreational use, and oil and gas lease revenues will be described.

Impacts to RMP/EIS area ranch operators are analyzed through the use of three representative ranch budgets. Data from these ranch budgets are then used to analyze the impacts to the economy of the ESA. Representative ranch budgets by alternative are shown in Appendix 19. Economic impacts resulting from the *Proposed Action* on the mining industry cannot be quantified in many cases because of a lack of information about the mineral and energy resources.

Ranch Budgets

Small Ranch. Under the *Proposed Action* the short- and long-term herd size of the typical small ranch would remain equal to its authorized grazing preference—42 cows. Net revenue (gross revenue minus cash costs) would thus remain at $3,743. See Table 4-9 for revenue figures for all alternatives.

Because net revenue on the small-size ranch would not be impacted by the *Proposed Action*, the present value of 20 years of net revenue would also not be impacted. See Table 4-10 for the 20-year net revenue figures for all alternatives.

Medium Ranch. Under the *Proposed Action* the herd size of the typical medium-size ranch would remain at its authorized grazing preference level—140 cows. Long-term forage increases, however, would allow the typical medium-size ranch to stock 147 cows, a five percent increase over existing stocking rates. Yearly net revenue would initially remain at $11,588 but would gradually increase by seven percent to $12,424 over 20 years. The present value of 20 years of net revenue on the medium-size ranch under present management amounts to $114,839, whereas such revenues under the *Proposed Action* amount to $117,890 or a three percent increase.

Large Ranch. Under the *Proposed Action* the herd size of the typical large ranch would remain equal to its authorized grazing preference—518 cows. Long-term forage increases, however, would allow the typical large ranch to stock 531 cows, a three percent increase over existing stocking rates. Yearly net revenue would initially remain at $34,863 but would gradually increase by four percent to $36,251 after 20 years. The present value of 20 years of net revenue on the typical large ranch under present grazing management amounts to $345,498, whereas such revenues under the *Proposed Action* amount to $350,612 or a two percent increase.

TABLE 4-9
RANCH ECONOMIC IMPACTS BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Ranch Impacts	Existing Situation	Proposed Action		No Action		Resource Production		Resource Protection		Environmental Protection	
		Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
Net Revenue ($)*											
Small (0-99 Head)	3,743	3,743	3,743	3,743	3,743	3,040	3,040	2,512	2,512	0	0
Medium (100-299 Head)	11,588	11,588	12,424	11,588	11,588	10,460	13,112	6,037	6,037	0	0
Large (Over 300 Head)	34,863	34,863	36,251	34,863	34,863	30,432	36,427	13,419	13,419	0	0
Ranch Values ($)**											
Small (0-99 Head)	72,000	72,000	72,000	72,000	72,000	61,500	61,500	57,000	57,000	0	0
Medium (100-299 Head)	241,500	241,500	255,000	241,500	241,500	222,000	273,000	127,500	127,500	0	0
Large (Over 300 Head)	894,000	894,000	909,000	894,000	894,000	796,500	925,000	445,500	445,500	0	0

* Net revenue is defined as gross revenue minus cash costs. Net revenue is the amount remaining to pay for owner/operator labor, buy new equipment, and pay off existing ranch debts.
** Ranch values are calculated on the basis of the ranches carrying capacity at a value of $1,500 per cow.
SOURCE: Lower Gila South Ranch Budgets, Phoenix District files

TABLE 4-10
TOTAL NET RANCH REVENUE OVER A 20-YEAR PERIOD*
Bureau of Land Management, Phoenix District, Arizona

Ranch Size	Existing Situation	Proposed Action	No Action	Resource Production	Resource Protection	Environmental Protection
Small	37,094	37,094	37,094	30,126	25,440	0
Medium	114,839	117,890	114,839	113,403	59,908	0
Large	345,498	350,612	345,498	323,661	135,899	0

* All values are discounted at a rate of 7.875 percent.
SOURCE: Lower Gila South Ranch Budgets, Phoenix District files

Designating the four wilderness areas under the *Proposed Action* may slightly impact ranch net revenue. Ranchers may be required to build and maintain range improvements in a fashion that would not impair wilderness values. This may result in increased construction and maintenance costs on these improvements. These impacts, however, are expected to be minimal because several of the proposed wilderness areas are now inaccessible to motorized vehicles.

Ranch Finance

Ranch values are based on a ranch's authorized grazing preference at an estimated $125 per animal unit month (AUM) or $1,500 per animal unit (BLM, 1982) Under the *Proposed Action* the value of the typical small ranch would remain at $72,000. On the typical medium-size ranch, values would initially remain at $241,500, but would gradually increase by six percent to $255,000 after 20 years. The value of the typical large ranch would initially remain at $894,000, but would gradually increase by two percent to $909,000. See Table 4-9 for short- and long-term changes in ranch values for all alternatives.

Under this alternative the financial condition of ranches would not be impacted in the short term. Long-term forage increases would slightly increase ranch values and thus improve a rancher's ability to borrow operating capital. Operating profits would also be expected to increase slightly in the long term because of increases in ranch carrying capacities.

Regional Economics

Under the *Proposed Action* annual gross receipts from the sale of livestock would remain at $739,493 in the short term. Long-term forage increases, however, would increase livestock sales by four percent to $766,493 (Table 4-11). Both the short- and long-term sales figures account for less than one percent of the total livestock sales in the ESA.

Ranch labor requirements would remain at 13.8 workyears in the short term but increase to 14.2 workyears in the long term. Earnings from this employment would remain at $173,189 in the short term but increase to $178,181 after 20 years. Both the short- and long-term earnings would be less than one percent of the ESA's total agricultural related earnings.

Recreation Economics

Designating portions of four WSAs as wilderness is expected to increase visitor use in the RMP/EIS area by 4,650 visitor days. Annual recreation related expenditures by visitors would thus increase by $17,763. These increases would amount to less than one percent of the total 1982 tourism and travel expenditures made in the ESA.

Mineral Economics

Portions of the four WSAs proposed for designation under this alternative contain deposits of various metallic and nonmetallic minerals, but reliable reserve estimates for these commodities are not known. Some of the deposits of gold, silver, and copper may prove economically viable. However, it is nearly impossible with existing information to estimate the impact that extraction of these and other mineral commodities would have on the local economy and work force.

Wilderness designation would prohibit mineral entry in the four areas proposed for designation. Also, development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

The four areas proposed for designation are all classified as having a low potential for oil and gas development. A number of oil and gas leases have been established in the WSAs, but to date no production has occurred. Currently the lessees pay the government one

TABLE 4-11
REGIONAL ECONOMIC IMPACTS BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Regional Impacts*	Existing Situation	Proposed Action		No Action		Resource Production		Resource Protection		Environmental Protection	
		Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term	Short Term	Long Term
Ranch Receipts ($)	739,493	739,493	766,493	739,493	739,493	664,078	778,239	383,882	383,882	0	0
Ranch Expenditures ($)	410,952	410,952	422,775	410,952	410,952	376,134	432,418	243,679	243,679	0	0
Ranch Net Revenue ($)	328,541	328,541	343,280	328,541	328,541	287,944	345,821	140,203	140,203	0	0
Ranch Employment (%)** (Workyears)	13.8	13.8	14.2	13.8	13.8	13.0	14.6	9.6	9.6	0	0
Ranch Employment Related Earnings ($)**	173,189	173,189	178,181	173,189	173,189	162,652	182,516	120,652	120,652	0	0

* Figures shown are cumulative for all 17 RMP/EIS area ranches.
** Excludes owner/operator employment and earnings; one workyear = 2,600 hours
SOURCE: Lower Gila South Ranch Budgets, Phoenix District files

dollar per acre per year for these oil and gas leases. One-half of the lease revenue is then returned to the state. Under the *Proposed Action* 189,750 designated acres would be withdrawn from BLM's oil and gas leasing program. The loss of this acreage from the leasing program would result in a loss of potential lease revenues for both BLM and the state. Table 4-12 shows the acres which would be withdrawn from oil and gas leasing and the potential losses in lease revenue. Under this alternative BLM and the state would each potentially lose $94,875 per year. When compared to the total oil and gas lease collections BLM receives nationally, the loss of this revenue would be less than one percent.

TABLE 4-12
POTENTIAL OIL AND GAS LEASE REVENUES FORGONE BY WILDERNESS DESIGNATION
Bureau of Land Management, Phoenix District, Arizona

Alternative	Acres Under Lease*	Yearly Revenue	Amount Returned To The State**
Proposed Action	189,750	$189,750	$ 94,875
No Action	0	0	0
Resource Production	0	0	0
Resource Protection	324,350	324,350	162,175
Environmental Protection	607,557	607,557	303,778

* Assumes all nonsuitable acres would be leased.
** One-half the lease revenue collected by the BLM is returned to the state.
SOURCE: Phoenix District files

Conclusion. No significant economic impacts to RMP/EIS area ranchers or to the economy of the ESA would result from the *Proposed Action*. Economic impacts to the minerals industry under this alternative cannot be determined because of the lack of any specific development plans for the minerals present in each WSA. Wilderness designation of portions of four WSAs would withdraw these areas from mineral entry and could potentially have long-term negative impacts to the ESA's economy.

IMPACTS ON SOCIAL ELEMENTS

Conclusion. Under the *Proposed Action* a few ranches would have an increase in income and permit value in the long term. It is assumed that the attitude of the affected ranchers toward this alternative would be neutral to positive.

No Action Alternative

IMPACTS ON RANGELAND MANAGEMENT

No adjustments in livestock AUMs (60,524) are proposed under this alternative. Applications for nonuse, supplemental use, and change in kind or class of livestock would be approved or disapproved on an annual basis. Existing grazing use patterns and management practices would be allowed to continue without change and therefore would not impact livestock grazing operations. Existing rangeland developments would be maintained and new developments would be constructed by livestock operators for the orderly use of the rangeland. Grazing management on the 22 perennial-ephemeral allotments and on eight perennial-ephemeral grazing leases would remain unchanged. The 18 ephemeral allotments would continue to be managed in accordance with the Special Ephemeral Rule published in December 1968.

Under this alternative all WSAs are recommended as being unsuitable for wilderness designation (Table 4-1). Until the 12 WSAs are released by Congress and returned to other multiple use management, however, all new rangeland developments constructed within WSAs would have to meet the criteria set forth in the Interim Management Policy for Land Under Wilderness Review.

Conclusion. No impacts to livestock operators would occur from the *No Action* alternative. Existing grazing use patterns and management practices would continue without change. All WSAs would be returned to other multiple use management and wilderness restrictions would not affect livestock operations.

IMPACTS ON VEGETATION

The short-term impacts on vegetation would be the continuation of present trends in rangeland condition. Changes in trend in rangeland condition are subtle in the Sonoran desert and therefore difficult to assess without any long-term data. Because this alternative proposes no changes in management practices, there would be a negligible impact on livestock forage.

The downward apparent trend in rangeland condition on five percent (69,600 acres) of 11 perennial-ephemeral allotments (Appendix 15) would eventually stabilize as would the 160,670 acres (10 percent of the Lower Gila South RMP/EIS area) exhibiting an upward apparent trend. Rangeland condition would decline in areas closest to water sources because of the continued grazing and lack of minimum rest periods. Overall, rangeland condition and trend would remain in static condition with rangeland condition in the fair to good condition class. Rangeland condition on the 18 ephemeral allotments (Custodial) would not change in this alternative. These allotments are grazed only when ephemeral forage has the potential to become available.

Conclusion. Because this alternative proposes no changes in grazing management practices, there would be a negligible impact on livestock forage. Downward

and upward apparent trends in rangeland condition would eventually stabilize. Rangeland condition would decline in areas closest to water sources. Overall, rangeland condition and trend would remain static with rangeland condition in the fair to good condition class.

IMPACTS ON WILDERNESS VALUES

None of the 12 WSAs in the Lower Gila South RMP/EIS area would be designated as wilderness under the *No Action* alternative. All 607,557 acres would be returned to multiple use management. Wilderness and associated resource values present in the WSAs might be degraded or permanently lost over the long term because land uses detrimental to wilderness could be permitted. Resource uses that could adversely impact the wilderness character of the WSAs are mining and energy development, motorized vehicle use, and rights-of-way and other utility uses.

Developing mineral and energy resources could destroy wilderness values by disturbance of natural landscapes, resulting in the loss of an area's naturalness. Road construction, extraction, and installation of facilities could further cause a loss of solitude and primitive recreation opportunities. Mining activity could cause long-term, irreversible and irretrievable impacts to wilderness and supplemental resource values.

Issuing rights-of-way for roads or new utility uses would cause a decline or loss of wilderness values in areas so affected. Public lands in some WSAs could also be subject to disposal actions over the long term. Mining, rights-of-way, and other developments would result in new or increased access into previously remote or unvisited areas. This could lead to increased motorized vehicle use.

Continued and increased motorized recreation use would occur in all WSAs. Some of this use could damage soils, vegetation, and scenery over the long term. The attractiveness of these 12 areas for solitude and nonmotorized types of primitive recreation could decline as motorized recreation use increases or spreads to previously unused areas. Supplemental wildlife, cultural, scenic, and botanical resource values would also be adversely affected by increased access of motorized vehicles into remote areas.

Small scale projects for wildlife and livestock management (fences, waters, corrals) could slightly impair wilderness values because they would be installed without wilderness constraints on placement and design. In addition, all the WSAs would be managed under VRM Class II, III, or IV standards, which afford much less protection to visual resources than the Class I standards required by wilderness.

Conclusion. The *No Action* alternative could cause the wilderness resources of all 12 WSAs to be degraded to the point that over the long term the wilderness values presently existing would be lost because of mineral development, motorized vehicle use, and other land uses. These could be irreversible and irretrievable impacts to the wilderness resource.

IMPACTS ON LAND USES

Conclusion. This alternative would have little or no impact on the everyday land actions. It would preclude the formal designation of the proposed utility corridors and the proposed land tenure adjustments. This would force major rights-of-way to be considered on a case-by-case basis and would also interfere with the plans of the State of Arizona and BLM to develop a more manageable land ownership pattern.

IMPACTS ON WILDLIFE

Rangeland Management Issue

Under the *No Action* alternative no rangeland developments are proposed, but developments would be allowed on a case-by-case basis. Possible impacts are the same as those identified under *Proposed Action*. BLM would address specific impacts of all future developments on wildlife and attempt to mitigate them as described in the Wildlife Management Guidance section in Chapter 2.

Mule Deer. Under the *No Action* alternative long-term adverse impacts would continue to occur on a site-specific basis to mule deer. BLM inventory studies indicated that browse vigor is very low on Conley, Lower Vekol, Cameron, Bighorn, and Beloat allotments (Fredlake and Lucas, 1982). Mule deer habitat would continue to decline on these allotments without monitoring studies to indicate need for management action.

Desert Bighorn Sheep. Bighorn sheep disease exposure would continue throughout the Lower Gila South RMP/EIS area at current grazing levels. This constitutes a serious long-term negative impact to bighorn.

Sonoran Pronghorn. Continued forage conflict would exist between Sonoran pronghorn and livestock on the Cameron allotment, constituting highly significant, long-term adverse impacts. Pronghorn habitat in the Lower Gila South RMP/EIS area would continue to decline.

Desert Tortoise. No long-term improvement would be expected in desert tortoise habitat. Since no monitoring is planned under this alternative, BLM would have no data to identify allotments where serious forage conflicts occur, and no remedial action could be taken. An adverse long-term impact to tortoise would result.

Riparian Habitat. This alternative would result in no impact to riparian habitat along the Gila River. No significant degradation in riparian habitat would result at current stocking levels.

Conclusion. The short-term impacts to Sonoran pronghorn, desert bighorn sheep, desert tortoise, mule deer, and riparian habitat would be substantially the same as the *Proposed Action*. No monitoring is proposed under this alternative, thus BLM will be unable to identify or correct conflicts between wildlife and livestock. This represents an adverse impact to Sonoran pronghorn, desert bighorn sheep, mule deer, and desert tortoise. Under the *No Action* alternative, no beneficial, long-term impacts would occur to wildlife.

Wilderness Issue

Conclusion. Under this alternative, no wilderness would be designated. Desert bighorn sheep and desert tortoise would continue to suffer human disturbance and habitat loss. This constitutes an adverse impact.

Land Tenure Issue

Conclusion. Under the *No Action* alternative, no impacts to wildlife would occur from the land disposal proposal or from the split mineral estate issue. Nonacquisition could cause a slight long-term adverse impact on public lands along the Fred J. Weiler Green Belt where riparian habitat could be converted from valuable bird habitat to low-value disturbed land.

Utility Corridor Issue

Conclusion. The impacts to wildlife from not designating corridors would be somewhat detrimental because new areas previously untouched by utility line construction could be significantly damaged in terms of wildlife habitat values.

IMPACTS ON MINERALS AND ENERGY

The *No Action* alternative would not impact the development of minerals and energy resources. All WSAs (607,557 acres) now under study would be recommended as unsuitable for wilderness designation and would be returned to other multiple use management. All areas in the Lower Gila South RMP/EIS area would remain open for mineral entry in accordance with the mining regulations.

Conclusion. Under this alternative, all lands would be retained in federal ownership and no changes in the lands or minerals programs would be proposed. There would be no significant impact to the minerals program from this alternative.

IMPACTS ON SOILS

Soil erosion would continue to accelerate in the severe condition areas, drainageways, and the Gila River. Any proposed soil-disturbing projects in the high soil-blowing and severe-erosion condition areas would be evaluated on an individual basis using the environmental assessment process. Mitigating measures would be applied as appropriate.

Conclusion. Soils would not be significantly impacted under this alternative. Any soil-disturbing projects in the desert pavement areas would be evaluated under the environmental assessment process on a site-specific basis.

IMPACTS ON CULTURAL RESOURCES

Cultural resources would not be impacted by the proposed range issue since no rangeland developments are proposed under the *No Action* alternative. Impacts to cultural resources would be evaluated in environmental assessments on a case-by-case basis.

Conclusion. Under the *No Action* alternative adverse impacts from mining, ORV use, and road construction could occur on 218,560 acres (within 12 WSAs) likely to contain cultural resources. One site eligible for the National Register and one extensive archaeological district nominated to the National Register would not be protected under this alternative. The Gila Bend, Eagletail, and Maricopa Mountains, which are significant to a number of Native Americans, would not have the added protection afforded by wilderness designation.

IMPACTS ON RECREATION

Conclusion. Under this alternative, there would be no impacts to recreation use, and all 607,557 acres would remain open to ORV use. Visual resources would continue to be managed as 132,842 Class II acres, 361,305 Class III acres, and 113,410 Class IV acres according to BLM's Visual Resource Management guidelines. The visual resources on 607,557 acres would be less protected under the Class II, Class III, and Class IV guidelines than if they were managed under the more restrictive guidelines of Class I under wilderness designation.

IMPACTS ON ECONOMIC CONDITIONS

Ranch Budgets

Under the *No Action* alternative, ranches in the RMP/EIS area would keep their authorized grazing preference. Thus, ranches would be allowed to stock cattle up to this grazing preference and the financial situation depicted by the typical ranch budgets would be expected to continue (Tables 4–9 and 4–10).

No wilderness areas would be designated under the *No Action* alternative. Thus, ranchers would be allowed to continue present maintenance and construction practices on new range improvements. Therefore, no increased costs for constructing and maintaining range improvements would be expected.

Regional Economics

Livestock sales, livestock related employment, and earnings are expected to remain at existing levels, and the *No Action* alternative would not impact the ESA's economy (Table 4–11).

Recreation Economics

Recreation use as well as expenditures made by recreationists visiting the RMP/EIS area would be expected to continue along present trends.

Mineral Economics

The *No Action* alternative would allow mineral entry in the WSAs under rules established by the 1872 mining law. Thus, this alternative would not affect mine operating costs. Oil and gas leasing would continue along present trends, therefore, this alternative would not affect the yearly revenue collected by BLM for oil and gas leases. BLM would also continue returning one-half of the oil and gas lease collections to the State of Arizona (Table 4–12).

Conclusion. No significant economic impacts to RMP/EIS area ranchers or the economy of the ESA would result from the *No Action* alternative. The minerals industry would be free from wilderness restrictions under *No Action* and would be allowed to locate and develop minerals under the 1872 mining laws. Thus, the minerals industry would not be economically impacted by this alternative.

IMPACTS ON SOCIAL ELEMENTS

Conclusion. The *No Action* alternative would maintain the current grazing situation; therefore, no social impacts to ranchers would occur.

Resource Production Alternative

IMPACTS ON RANGELAND MANAGEMENT

The *Resource Production* alternative would initially reduce livestock numbers on public land by 10 percent to 54,315 AUMs from the authorized grazing preference of 60,524 AUMs. This alternative proposes to develop eight allotment management plans (AMPs) on eight perennial-ephemeral Maintain allotments encompassing approximately 531,400 acres of public land (Table 2–5). These are allotments that exemplify a moderate to high potential for rangeland improvement. The remaining 14 perennial-ephemeral allotments and eight grazing leases in the Maintain and Custodial categories would not have AMPs developed for them, but rangeland developments could be constructed if needed for the orderly use of the rangeland. Ephemeral allotments would not be impacted by this alternative and would continue to be administered in accordance with the Special Ephemeral Rule.

Construction of new rangeland developments in previously unused areas would result in more usable forage becoming available for livestock and wildlife (see Table 2–1). The allotments with developed AMPs would generally shift from continuous or sporadic grazing to grazing systems with periodic rest and seasonal deferment.

Over time, key forage species production and vigor would improve, increasing the quality and quantity of forage grazed by livestock. In the long term (5–25 years) an increase of 4,023 AUMs above the current authorized grazing preference (from 60,524 to 64,547 AUMs) could be expected from implementing this alternative.

This alternative would increase livestock operator workloads and expenses but would cause short-term impacts. Increased maintenance costs would result in the long term from the construction of new rangeland developments. Fencing of pastures and allotment boundaries would permit greater control over livestock and help in detecting trespass.

Under this alternative all WSAs are recommended as being unsuitable for wilderness designation (Table 4–1). Until the 12 WSAs are released by Congress and returned to other multiple use management, however, all new rangeland developments constructed within WSAs would have to meet the criteria set forth in the Interim Management Policy for Land Under Wilderness Review.

Conclusion. The *Resource Production* alternative initially reduces livestock numbers in the Lower Gila South RMP/EIS area to 54,315 AUMs, a 10 percent reduction from the authorized preference of 60,524 AUMs. AMPs would be developed for eight perennial-ephemeral allotments, resulting in an estimated increase of 4,023 AUMs above the authorized preference (from

60,524 to 63,549 AUMs). In the long term a small increase in maintenance costs to the operator would result. All WSAs would be returned to other multiple use management and would not affect livestock grazing operations.

IMPACTS ON VEGETATION

Implementation of eight AMPs on 531,400 acres of public land involving eight livestock operators would benefit livestock forage. Grazing treatments and new rangeland developments would improve livestock distribution and improve the availability of livestock forage, thereby improving seedling establishment, vigor and reproduction of key forage plants. Downward apparent trend on approximately 40,000 acres on eight Maintain allotments with AMPs would be reversed or stabilized with the construction of new rangeland developments.

In the short term, initial reductions would slightly improve the vigor of the preferred forage plants. In the long term, vegetation would improve in a shorter time in high-response areas and at a slower rate on low response sites on those allotments with implemented AMPs.

Rangeland developments for Maintain and Custodial allotments without AMPs would also improve livestock distribution and stabilize or improve downward trends in rangeland condition. Vegetation on the remaining 18 ephemeral allotments and eight grazing leases in the Custodial category would not change in the long term under this alternative.

Conclusion. Beneficial impacts to the vegetation resources would occur by implementing this alternative. Allotment management plans (AMPs) would be developed for eight allotments involving 531,400 acres of public land. In the short term, initial reductions and new rangeland developments would slightly improve the vigor of the preferred forage plants. In the long term, vegetation would improve most rapidly on allotments with implemented AMPs.

IMPACTS ON WILDERNESS VALUES

Conclusion. Under the *Resource Production* alternative, impacts would be identical to those described under the No Action alternative. All 12 WSAs (607,557 acres) would be returned to other multiple use management.

IMPACTS ON LAND USES

Conclusion. The *Resource Production* alternative would be the most beneficial for the lands program. Because there would be no designated WSAs, future rights-of-way would not be precluded in these 12 areas. Additionally, this alternative allows for the development of utility corridors and the development of the land tenure adjustment program.

IMPACTS ON WILDLIFE

Rangeland Management Issue

Under the *Resource Production* alternative desert tortoise, bighorn sheep, and mule deer habitat conditions could improve on those allotments proposed for allotment management plans (AMPs). The degree of benefit depends on specific contents of the plans and cannot be further assessed at this time. Sonoran pronghorn habitat conditions could improve as a result of the AMP proposed for Cameron allotment, again depending on the specific content of the plan.

If monitoring studies indicated a need for reduction in stocking rates then significant long-term benefits would result for mule deer, Sonoran pronghorn, desert tortoise, and desert bighorn sheep.

More fencing, wells, and reservoirs are proposed but this will not necessarily be more detrimental (in the case of desert tortoise and desert bighorn) or more positive (in the case of small game and waterfowl). Impacts of specific development proposals would be analyzed on a case-by-case basis.

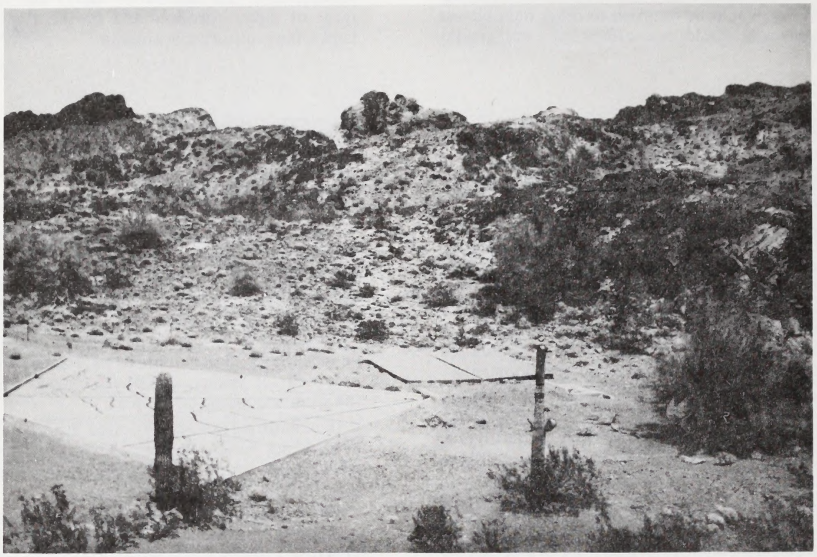
Conclusion. Overall, impacts to wildlife would be similar to the *Proposed Action*, except for impacts to Sonoran pronghorn. Sonoran pronghorn would be beneficially impacted to an unquantified extent (Table 4–2).

Wilderness Issue

Conclusion. Impacts to wildlife under the *Resource Production* alternative would be the same as the under *No Action* alternative (Table 4–4).

Land Tenure Issue

Conclusion. Land disposal and split mineral estate impacts to wildlife under the *Resource Production* alternative would be the same as under the *Proposed Action*. A total of 2,200 acres of bighorn sheep habitat is proposed for acquisition under this alternative. This acquisition would benefit bighorn sheep only. Because of nonacquisition, nonpublic lands along the Fred J. Weiler Green Belt would be susceptible to conversion from valuable wildlife habitat to low-value disturbed land. Slight long-term adverse impacts would result.



Catchments Provide Beneficial Water Sources For Big And Small Game

Water catchments like the one pictured above provide dependable sources of water needed by big-game animals to survive in desert environments.

Utility Corridor Issue

Conclusion. The impacts to wildlife under this alternative would be the same as under the *Proposed Action*.

IMPACTS ON MINERALS AND ENERGY

Conclusion. The *Resource Production* alternative would have a beneficial impact on the development of mineral resources in the RMP/EIS area. All 12 WSAs would return to other multiple use management and exploration, prospecting, and mining would be encouraged. Ninety percent of all mining activity in these areas is carried out by small mine operators. The local economy would be beneficially impacted and large scale explorations would be encouraged.

Acquisition of 22,842 acres under the *Resource Production* alternative would be beneficial to mining interests because these areas would be open to mineral exploration. Acquiring 112,160 acres of state and private mineral estate acres to consolidate split mineral estates would be beneficial because BLM would control both surface and subsurface lands.

IMPACTS ON SOILS

Conclusion. Any proposed soil-disturbing projects in the fragile soil areas would be evaluated using the environmental assessment process on a case-by-case basis. The short-term reduction and greater distribution of livestock would be beneficial in reducing soil erosion in and adjacent to the drainageways and the Gila River that are heavily used by livestock.

Potential For Minerals Varies Throughout The Area

Mineral exploration companies such as this one have revealed a variety of different types of minerals.

IMPACTS ON CULTURAL RESOURCES

Conclusion. Under the *Resource Production* alternative the impacts to cultural resources for all issues would be the same as those described under the *No Action*.

IMPACTS ON RECREATION

Conclusion. Under this alternative the impacts to ORV use, recreation visitor use, and VRM would be the same as those described under the *No Action* alternative.

IMPACTS ON ECONOMIC CONDITIONS

This section describes the economic impacts of the *Resource Production* alternative on the RMP/EIS area ranchers and the economy of the three-county economic study area (ESA). Impacts from expected changes in outdoor recreation use and oil and gas lease revenues will also be described.

Ranch Budgets

Small Ranch. Under this alternative the herd size of the typical small ranch would be reduced by 16 percent

from 42 cows to 35 cows in the short term and would remain at this level over the long term. Yearly net revenue would decrease by 19 percent from an existing level of $3,743 to $3,040 (Table 4–9).

The present value of 20 years of net revenue under present management amounts to $37,094, whereas such revenues under the *Resource Production* alternative amount to $30,126 (Table 4–10).

Medium Ranch. Under this alternative the herd size of the typical medium-size ranch would initially be reduced by nine percent from 140 cows to 128 cows. Long-term forage increases, however, would allow the typical medium-size ranch to increase its herd size to 158 cows (a 13 percent increase over existing levels). Yearly net revenue would decrease in the short term by 10 percent from $11,588 to $10,460, but over a 20-year period under the projected forage increases for the *Resource Production* alternative the yearly net revenue would gradually increase 13 percent over existing levels to $13,112.

The present value of 20 years of net revenue on the typical medium-size ranch under present grazing management amounts to $114,839, whereas such revenues under the *Resource Protection* alternative amount to $113,403.

Large Ranch. Under this alternative, the herd size of the typical large ranch would be reduced by 10 percent from 518 cows to 465 cows. Long-term forage increases, however, would allow the typical large ranch to increase its herd size four percent over existing levels to 541 cows. Yearly net revenue would decrease in the short term by 13 percent from $34,863 to $30,432, but over a 20-year period yearly net revenue would gradually increase four percent over existing levels to $36,427.

The present value of 20 years of net revenue on the large ranch under present grazing management amounts to $345,498, whereas such revenues under the *Resource Production* alternative amount to $323,661.

Ranch Finance

Ranch values are based on authorized grazing preference figures at an estimated value of $125 per AUM or $1,500 per animal unit (BLM, 1982). The *Resource Production* alternative would reduce the authorized grazing preference in the short term, but gradually increase this preference in the long term to a higher level than now exists.

The value of the typical small ranch would decrease 15 percent from an existing value of $72,000 to $61,500 and remain at this level. The value of the typical medium-size ranch would decrease from an existing value of $241,500 to $222,000 in the short term. Long-term AUM increases, however, would gradually raise the value of the medium-size ranch to $273,000, 13 percent higher than existing levels. The value of the typical large ranch would decrease from an existing value of $894,000 to $796,500 in the short term, but after 20 years gradual increases in grazing authorizations are expected to raise the value to $925,000, a three percent increase from existing levels.

The overall impact of the *Resource Production* alternative on RMP/EIS area ranchers would vary from ranch to ranch. Generally, the short-term reduction in ranch values would adversely affect the asset base of the rancher, making it more difficult to borrow money. Long-term increases in ranch value, however, would improve this condition.

Regional Economics

Under the *Resource Production* alternative, annual gross receipts from the sale of livestock would be reduced by 10 percent from $739,493 to $664,078 in the short term. Over the long term gross receipts would increase five percent over existing levels to $778,239. Livestock sales from the RMP/EIS area ranchers, however, would still be less than one percent of total livestock sales in the three-county ESA.

Ranch labor would decrease from 13.8 workyears to 13 workyears in the short term and increase to 14.6 workyears over the long term. The reduction in ranch hired labor would not significantly affect the economy of the ESA.

Recreation Economics

Recreation use as well as recreation expenditures would continue along present trends under the *Resource Production* alternative. There might be a slight increase in hunter use in the RMP/EIS area because of the additional water developments proposed under this alternative, but expenditures made by these hunters would not significantly affect the economy of the ESA.

Mineral Economics

No wilderness study areas would be designated under the *Resource Production* alternative. Mineral entry would be allowed under the 1872 mining laws, and thus mine operating costs would not be affected by this alternative. Oil and gas leasing revenues collected by the BLM would not be impacted nor would the amount of revenue returned to the State of Arizona (Table 2–12).

Conclusion. Under the *Resource Production* alternative RMP/EIS area ranchers would experience a slight

economic loss in the short term. Over the long term, however, ranchers would realize a slight economic benefit from the projected increase in forage. The economy of the ESA would not be impacted under this alternative. The minerals industry would be free from wilderness restrictions and would be allowed to locate and develop minerals under the 1872 mining laws. Thus, the minerals industry would not be economically impacted by this alternative.

IMPACTS ON SOCIAL ELEMENTS

Conclusion. The *Resource Production* alternative would improve the long-term income and permit value of some ranchers. It is assumed that the attitudes of the affected ranchers would be positive.

TABLE 4-13
ALLOTMENTS WITH SIGNIFICANT BROWSE HEDGING
Bureau of Land Management, Phoenix District, Arizona

Arnold*	Eagle Tail
Powers Butte*	Hazen
Beloat	Kirian
Bighorn	Lower Vekol
Cameron	South Vekol
Childs	Table Top
Conley	Vekol
Coyote Flat	Why

*Ephemeral Allotments
SOURCE: Phoenix District files

Resource Protection Alternative

IMPACTS ON RANGELAND MANAGEMENT

This alternative proposes a 47 percent reduction in the authorized grazing preference from 60,524 AUMs to 31,914 AUMs on 30 perennial-ephemeral allotments and Section 15 grazing leases (see Appendix 11). This reduction is based on the enhancement of other resources such as wildlife, threatened and endangered (T&E) plant habitat, and watershed. Another factor used to determine stocking rates was the amount of browse hedging in 16 allotments with high wildlife values (Table 4-13). The remaining eight perennial-ephemeral Section 15 grazing leases and the 16 ephemeral allotments would be managed the same as under the *No Action* alternative. The eight perennial-ephemeral allotments without significant browse hedging would be reduced to their five-year average licensed use (1976-1981). These adjustments would result in short- and long-term significant adverse impacts to livestock grazing operations in the Lower Gila South RMP/EIS area. Livestock permittees would have to secure alternate pastures on private or state lands in order to continue at their existing levels of operation, or be forced out of the cow-calf operation business. Except for phasing in most of the reductions in AUMs over a five-year period, very little can be done to mitigate the adverse impacts these reductions would have on livestock operators.

Proposing 324,350 acres as suitable for wilderness designation would not significantly impact livestock grazing on 14 perennial-ephemeral and six ephemeral allotments under this alternative (Table 4-1). No new rangeland developments are being proposed and would be allowed only if they were necessary for the protection of other resources such as wildlife, botanical, watershed, or wilderness protection and enhancement.

Conclusion. Implementation of the *Resource Protection* alternative would adversely impact livestock operators in the Lower Gila South RMP/EIS area. Initially, livestock numbers would be reduced to 31,914 AUMs, a 47 percent reduction from the authorized grazing preference of 60,524 AUMs. The reduction is based on enhancement of other resources and on browse hedging on allotments with high wildlife values.

Since livestock numbers would be significantly reduced and would remain at those low levels, livestock grazing would not be impacted by designating portions of seven WSAs on 14 perennial-ephemeral and six ephemeral allotments (see Lower Gila South Wilderness Supplement).

IMPACTS ON VEGETATION

Implementing the *Resource Protection* alternative would be beneficial to vegetation on 14 perennial-ephemeral allotments and two ephemeral allotments involving 946,366 acres. Vegetation on the remaining six perennial-ephemeral allotments (Clem, Crowder-Weisser, Hansen, Sentinel, South Vekol, and Ward) would also improve as a result of reducing AUMs to the five-year average licenses (1976-1981). Vegetation on the remaining 16 ephemeral allotments and eight Section 15 allotments would not be impacted. They would continue to be managed the same as under the *No Action* alternative.

Allotments displaying stable or upward apparent trends in rangeland condition would improve most rapidly in high response areas where significant reductions in livestock numbers occur and where browse competition between livestock and mule deer are highest.

Vegetation improvement would not be significant in areas already showing satisfactory condition. Declining apparent trend in rangeland condition on approximately 70,000 acres of public land would either stabilize or be reversed.

Reductions in livestock numbers on perennial-ephemeral allotments would decrease grazing pressure around permanent waters used yearlong. Improvement would be most significant in areas currently in poor and fair rangeland condition that have high potential to respond to a reduction in livestock grazing. Rate of improvement is also highly dependent on precipitation and soils.

Conclusion. Vegetation on 22 perennial-ephemeral allotments would benefit from the significant reduction in livestock numbers. The remaining 18 ephemeral allotments and eight Section 15 allotments would not be impacted since no reductions are proposed.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of 24,120 acres of the New Water Mountains, 49,940 acres of the Little Horn Mountains, 88,660 acres of the Eagletail Mountains, 26,390 acres of Face Mountain, 61,000 acres of Woolsey Peak, 39,840 acres of the North Maricopa Mountains, and 34,400 acres of the Table Top Mountains would ensure the protection and preservation of their wilderness values. In both the short and especially the long term, wilderness would provide the maximum protection for their wilderness character.

Protection of wilderness values on 324,350 acres would, in turn, benefit wildlife, botanical, soils, and scenic resource values. Long-term benefits would be provided by preserving lands in which natural ecological processes would continue with little or no human interference.

Desert Tortoise Population In Southwestern Arizona Would Continue To Decline Without Protection

Alternatives to protect crucial desert tortoise habitat are proposed through wilderness designation, and rangeland and wildlife monitoring studies.

A total of 241,170 acres of crucial bighorn sheep habitat would be protected by wilderness in the New Water Mountains, Little Horn Mountains, Eagletail Mountains, Woolsey Peak, North Maricopa Mountains, and Table Top Mountains. Important desert tortoise habitat (17,570 acres) would be protected from surface disturbances in the New Water Mountains, North Maricopa Mountains, and Table Top Mountains WSAs. Two significant Sonoran Desert botanical areas, proposed as natural areas by the Arizona Academy of Sciences in the Eagletail Mountains and Table Top Mountains, would be maintained in their natural state by wilderness. Wilderness would ensure their continued value for nature study and scientific or educational use.

Desert pavement soils, vegetation, and protected plants would be protected in all areas due to the restriction of mining, utility construction, and motorized vehicle use across 324,350 acres.

The scenic and visual values in seven varied Sonoran Desert landscapes would be preserved and managed under VRM Class I objectives. Class I objectives and management requirements allow little or no change in the natural landscape.

Designation of these seven areas would enhance the diversity of the NWPS in Arizona and the region. Residents of five SMSAs would have additional opportunities for solitude and nonmotorized recreation activities. The geographic distribution of wilderness in southwest Arizona would be enhanced by the establishment of seven wilderness areas. The Organ Pipe Wilderness is presently the only wilderness area. Designation of these seven areas would add no new ecosystems to the NWPS but would create additional representatives of the paloverde-cactus shrub and creosotebush-bursage vegetation types.

All seven areas recommended suitable are considered manageable as wilderness over the long term. Minor manageability problems include nonfederal surface and mineral inholdings, possible mining claim development, and motorized vehicle use. The overall impacts of these problems on manageability are considered insignificant.

Acquisition through land exchange of 3,083 acres of state surface and mineral lands and 3,401 acres of state mineral rights within the seven WSAs would facilitate wilderness management of the area and enhance botanical, wildlife, wilderness, and related multiple resource values. Acquisition of the above acreage would allow such parcels to be incorporated into the wilderness proposals.

Nondesignation of five entire WSAs (Little Horn Mountains West, East Clanton Hills, Signal Mountain, Butterfield Stage Memorial, and South Maricopa Mountains) and portions of the seven other WSAs would return these lands to multiple use management. This action could result in a loss or damage of wilderness values over the long term. Land uses detrimental to wilderness and supplemental values could be permitted, including mineral and energy development, rights-of-way and other land actions, and motorized vehicle use.

Mineral exploration and development could occur in all areas not designated wilderness as they would remain open to mineral entry. Considerable surface disturbance could occur from assessment work, road construction, exploratory activities, and small-scale mining operations. If development occurred, there could be adverse impacts to wilderness resources. Mineral development could have long-term, irreversible and irretrievable impacts on the wilderness resources.

Motorized vehicle use, new rights-of-way, and other land actions could diminish or eliminate the natural character of nondesignated areas. Outstanding opportunities for solitude and primitive recreation experiences could decline or be permanently lost.

The areas not designated wilderness would revert to VRM Class II, III, or IV visual management protection objectives. These VRM classes pose fewer restrictions on layout, design, and construction of proposed developments than the Class I objectives required by wilderness. Contrasts in the landscape resulting from developments could be more noticeable since projects affecting the scenery could be allowed.

The ability of nondesignated areas to enhance the present diversity of the NWPS would be lost. Additional wilderness opportunities for residents of five SMSAs would be forgone by nondesignation of these areas. BLM feels, however, that recommending portions of the New Water Mountains, Little Horn Mountains, Eagletail Mountains, Face Mountain, Woolsey Peak, North Maricopa Mountains, and Table Top Mountains as suitable for wilderness offsets adverse impacts to wilderness diversity in Arizona. Overall impacts to wilderness diversity are not significant.

Conclusion. For the portions of seven WSAs recommended suitable for wilderness designation (New Water Mountains, Little Horn Mountains, Eagletail Mountains, Face Mountain, Woolsey Peak, North Maricopa Mountains, and Table Top Mountains) there would be short- and long-term beneficial impacts to the wilderness resource by preserving the natural values, outstanding opportunities for solitude and primitive recreation, supplemental values, and enhancing the diversity of the NWPS in Arizona.

For those five entire and seven partial WSAs recommended nonsuitable for designation, there could be long-term, irreversible and irretrievable impacts to the wilderness resources because of mineral development, motorized vehicle use, and rights-of-way construction.

IMPACTS ON LAND USES

Conclusion. The *Resource Protection* alternative would not impact the routine lands program except that designation of seven WSAs (New Water Mountains, Little Horn Mountains, Eagletail Mountains, Face Mountain, Woolsey Peak, North Maricopa Mountains, and Table Top Mountains—324,350 acres) would preclude future land actions within these areas. This alternative would allow the development of the land tenure adjustment program and the development of utility corridors with the exception of the El Paso corridor. If this alternative is accepted, the Eagletail WSA (2-128) would conflict with approximately five miles of the proposed El Paso corridor.

IMPACTS ON WILDLIFE

Rangeland Management Issue

Conclusion. Under this alternative competition between cattle and mule deer would be somewhat alleviated by reductions in stocking rates on Beloat, Bighorn, Cameron, Conley, and Lower Vekol allotments. This represents a significant long-term benefit for mule deer. A 612-AUM reduction in livestock use on Cameron allotment would also significantly benefit Sonoran pronghorn. Slight benefits to desert bighorn sheep and desert tortoise would also occur. No change would occur in riparian habitat condition immediately, but a slight beneficial impact may result because of reductions called for under this alternative.

Wilderness Issue

Conclusion. Under the *Resource Protection* alternative 241,170 acres of crucial desert bighorn sheep habitat and 17,570 acres of crucial desert tortoise habitat would be protected under wilderness designation (Table 4-14). This represents almost a two-fold increase in protected acreage for both species over the *Proposed Action*. This alternative provides significant beneficial impacts to both species.

Land Tenure Issue

Conclusion. Land disposal and split mineral estate impacts would be the same under the *Resource Protection* alternative as under the *Proposed Action*. In addition to the wildlife habitat acquired by the wilderness issue, BLM would acquire 14,140 acres of riparian habitat along the Gila River for protective management for a total of 16,340 acres. This would increase the benefits for riparian bird species over that provided under the *Proposed Action*. Lands exchanged for desert bighorn sheep habitat management would remain the same as under the *Proposed Action*.

TABLE 4-14
ACRES OF HABITAT PROTECTED UNDER THE RESOURCE PROTECTION ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

WSAs	Crucial Desert Bighorn Sheep Habitat*	Crucial Desert Tortoise Habitat**
New Water Mountains	24,120	5,820
Little Horn Mountains	45,320	0
Eagletail Mountains	62,520	0
Face Mountain	0	0
Woolsey Peak	58,240	0
North Maricopa Mountains	28,190	7,050
Table Top Mountains	22,780	4,700
TOTAL	241,170	17,570

* Crucial desert bighorn sheep habitat: habitat necessary to maintain current bighorn populations. Population density varies.
** Crucial desert tortoise habitat: habitat with tortoise population densities of 50 tortoise per square mile or greater. All WSAs contain tortoise populations.
SOURCE: Phoenix District files

Utility Corridor Issue

Conclusion. Utility corridor impacts to wildlife under the *Resource Protection* alternative would be the same as under the *Proposed Action*.

IMPACTS ON MINERALS AND ENERGY

Conclusion. The *Resource Protection* alternative would impact mineral exploration in portions of seven WSAs (324,350 acres) that are recommended as being suitable for wilderness designation. This represents approximately 16 percent of the RMP/EIS area that would be withdrawn from mineral entry. A total of 666 mining claims and 324,350 acres of oil and gas leases would be adversely affected. Five entire WSAs and portions of seven WSAs would be recommended as unsuitable for wilderness designation and would be returned to other multiple use management.

Acquisition of 42,505 acres would be beneficial to miners and the mining industry because this land would be open to mineral exploration. Acquiring 112,160 acres of state and private mineral estate would be beneficial because BLM would control both the surface and subsurface lands.

IMPACTS ON SOILS

The reduction of livestock would be beneficial in reducing soil erosion in and adjacent to the heavily used drainageways along the Gila River. Any proposed soil-disturbing project in the high soil-blowing and

severe-erosion areas would be evaluated before being authorized.

Conclusion. Soils would not be significantly impacted under this alternative, although the reduction of livestock would be beneficial to the fragile desert soils (desert pavement). Any proposed soil disturbance project would be evaluated using site-specific environmental assessments on a case-by-case basis.

IMPACTS ON CULTURAL RESOURCES

Conclusion. Under the *Resource Protection* alternative, all impacts to cultural resources for all issues except the wilderness issue will be the same as under the *Proposed Action*. Designating portions of seven WSAs (324,350 acres) as wilderness would have the same general impacts as those described in the *Proposed Action*. Approximately 45 percent of the proposed WSA acres or 145,513 acres may contain cultural resources which would be beneficially affected (see Table 4–6).

In addition, several more significant cultural sites and areas would have added protection, including a portion of the Maricopa Mountain (which has significance to the Pima, Sand Papago, and Maricopa Indians), the Butterfield Stage Route, and a portion of the Dendora Valley Archaeological District.

IMPACTS ON RECREATION

Conclusion. Under the *Resource Protection* alternative a total of 170.45 miles of vehicle ways, six miles of roads, and 324,350 acres would be closed to vehicle use (Table 4–8). An estimated increase of 5,900 visitor days/year of recreation use is expected under this alternative.

In addition, under the *Resource Protection* alternative there would be 324,350 acres of public lands managed as VRM Class I and 60,208 fewer acres managed as VRM Class II, 205,590 fewer acres managed as VRM Class III, and 58,552 fewer acres managed as VRM Class IV. The visual resources on 324,350 acres managed as VRM Class I would be better protected through application of the more restrictive Class I management guidelines.

IMPACTS ON ECONOMIC CONDITIONS

This section describes the economic impacts of the *Resource Protection* alternative on RMP/EIS area ranchers and the economy of the economic study area (ESA). Impacts from expected changes in outdoor recreation use, and oil and gas lease revenues will also be described.

Ranch Budgets

Small Ranch. Under the *Resource Protection* alternative the herd size of the typical small-size ranch would be reduced by 24 percent from 42 cows to 32 cows and would remain at this level over the long term. Yearly net revenue would decrease by 33 percent from $3,743 to $2,512 and would remain at that level over the long term (Table 4–9). The present value of 20 years of net revenue under present management amounts to $37,094, whereas such revenues under the *Resource Protection* alternative would amount to $25,440 (Table 4–10).

Medium Ranch. Under this alternative the herd size of the typical medium-size ranch would be reduced by 47 percent from 140 cows to 74 cows and would remain at this level over the long term. Yearly net revenue would decrease by 54 percent from $13,112 to $6,037 and remain at that level over the long term. The present value of net revenue under present management for the medium-size ranch amounts to $114,839, whereas such revenues under the *Resource Protection* alternative amount to $59,908.

Large Ranch. Under this alternative the herd size of the typical large-size ranch would be reduced 50 percent from 518 cows to 260 cows and would remain at this level over the long term. Yearly net revenue would decrease 62 percent from $34,863 to $13,419 and remain at that level over the long term. The present value of net revenue under present management amounts to $345,498, whereas such revenues under the *Resource Protection* alternative amount to $135,899.

Ranch Finance

Ranch values are based on a ranch's authorized grazing preference figures at an estimated $125 per AUM or $1,500 per animal unit (BLM, 1982). The *Resource Protection* alternative would severely reduce the authorized grazing preference and thus the value of ranches in the RMP/EIS area. The value of the typical small ranch would decrease 21 percent from an existing value of $72,000 to $57,000 and remain at that value over the long term. The value of the typical medium-size ranch would decrease 47 percent from an existing value of $241,500 to $127,500 and remain at that value over the long term. The value of the typical large-size ranch would decrease 50 percent from an existing value of $894,000 to $445,500 and remain at that level over the long term.

Regional Economics

Under the *Resource Protection* alternative annual livestock sales of RMP/EIS area ranchers would be reduced 48 percent from $739,493 to $383,882 and remain

at that level over the long term (Table 4–11). Ranch hired labor would decrease from 13.8 workyears to 9.6 workyears. The reductions in livestock sales and ranch hired labor are not expected to significantly impact the ESA.

Recreation Economics

Designating seven WSAs as wilderness is expected to increase visitor use in the RMP/EIS area by 5,900 visitor days. Annual recreation related expenditures would thus increase by $22,538, an insignificant amount when viewed on a regional level.

Mineral Economics

The seven WSAs proposed for designation under this alternative contain deposits of various metallic and nonmetallic minerals, but reliable reserve estimates for these commodities and their locations are not known. Some of the deposits of gold, silver, and copper may prove economically viable. However, it is nearly impossible with existing information to estimate the impact that extraction of these and other mineral commodities would have on the local economy and work force.

Wilderness designation would prohibit mineral entry in the seven WSAs proposed for designation. Also, development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

The seven WSAs proposed for designation are all classified as having a low potential for oil and gas development. A number of oil and gas leases have been established in the WSAs, but to date no production has occurred. Currently the lessees pay the government one dollar per acre per year for these oil and gas leases. One-half of the lease revenue is then returned to the state. Under the *Resource Protection* alternative 324,350 designated acres would be withdrawn from BLM's oil and gas leasing program. The loss of this acreage from the leasing program would result in a loss of potential lease revenues for both BLM and the state. Table 4–12 shows the acres which would be withdrawn from oil and gas leasing and the potential losses in lease revenue for BLM and the state. Under this alternative BLM and the state would each potentially lose $162,175 per year. When compared to the total oil and gas lease collections BLM receives nationally, the loss of this revenue would be less than one percent.

Conclusion. The overall economic impact of the *Resource Protection* alternative on RMP/EIS ranches would be great. Ranches now operating at their authorized grazing preference would be required to reduce their herd sizes dramatically. Ranches now operating efficiently would have excess equipment and range improvements. Fixed costs on a per cow basis would increase and possibly many large- and medium-sized ranches would be forced out of business. Ranch values would decrease sharply, thus reducing a rancher's asset base and making it difficult to borrow money. In addition, net revenue would decrease, making it difficult for the ranch operation to pay family living expenses, replace equipment, and pay off existing debts. Although individual ranchers would suffer under this alternative, the economy of the ESA would not be significantly impacted.

Under the *Resource Protection* alternative the impacts to the minerals industry cannot be determined because of the lack of any specific development plans for the minerals present in each WSA. The withdrawal of seven WSAs from mineral entry would potentially cause long-term impacts to the ESA's economy.

IMPACTS ON SOCIAL ELEMENTS

Conclusion. Under the *Resource Protection* alternative ranchers would be negatively impacted due to losses in income and permit value. Those with a high dependency on BLM AUMs would be most affected. (See economics section.) The attitude of affected ranchers would be expected to be negative toward the BLM.

Environmental Protection Alternative

IMPACTS ON RANGELAND MANAGEMENT

Livestock grazing would be phased out on 2,009,232 acres (30 perennial-ephemeral allotments and grazing leases and 18 ephemeral allotments) in the Lower Gila South RMP/EIS area over a five-year period. No ephemeral licenses would be issued on the 30 perennial-ephemeral allotments and leases or the 18 ephemeral allotments. The livestock industry would annually lose 60,524 AUMs of livestock forage and an undetermined amount of ephemeral forage. Livestock production would be reduced by more than 5,000 head of cattle.

Livestock operations would be adversely impacted if there were no more grazing allowed on public lands in this RMP/EIS area. Perennial-ephemeral allotments would be most significantly impacted since they are permitted to graze livestock throughout the year. Ephemeral allotments would also be adversely impacted but

not to the same extent. These allotments do not consistently produce enough perennial forage to sustain a base herd on a yearlong basis and are not grazed on a regular basis from year to year.

Conclusion. All livestock grazing would be phased out in the Lower Gila South RMP/EIS area. Livestock operators would be adversely impacted by cancellation of all grazing privileges on public lands. The livestock industry would lose 60,524 AUMs of livestock forage annually.

IMPACTS ON VEGETATION

Eliminating livestock grazing on 2,009,232 acres would beneficially impact vegetation. Forage species grazed by livestock would be allowed to complete growth and reproduction. Livestock forage would improve in vigor and production and establish seedlings.

Complete yearlong rest of public lands would provide the opportunity for completion of growth and reproductive cycles. The initial rate of change would depend on current rangeland condition and trend, range site productivity, and plant vigor. The most significant increase would occur in high response areas with productive soils and higher rainfall. Low response areas would not improve in the short term, and more than 25 years might be needed for measurable improvement.

Rangeland condition on allotments with stable or upward apparent trends would improve as a result of eliminating grazing pressure on key forage species. Condition would stabilize once the potential of the various areas was reached. Condition on allotments with downward apparent trends would either stabilize or reverse from the yearlong rest. The rate of improvement would depend on plant vigor and climatic conditions. The lower a plant's vigor the slower its rate of recovery. Plant composition would also change in the long-term as condition improves, but to a small extent.

Conclusion. Eliminating livestock grazing under this alternative would be beneficial to the vegetation resources. Livestock forage would improve in vigor and production and established seedlings.

IMPACTS ON WILDERNESS VALUES

The *Environmental Protection* alternative would designate all 12 WSAs (607,557 acres) as wilderness. Wilderness designation would have short- and long-term beneficial impacts on wilderness and associated resource values by providing protection from most surface-disturbing activities. Withdrawal from mineral exploration and development, closure to motorized vehicles, and prohibition of new rights-of-way, disposal, or other land actions would preserve the natural character of extensive and relatively undisturbed Sonoran Desert basin and range landscapes. Opportunities for outstanding solitude and primitive recreation experiences in a natural setting would be significantly increased and protected for nonmotorized recreationists. Hiking, backpacking, camping, walk-in hunting, sightseeing, and nature study would be the primary activities benefited by wilderness.

Protecting the wilderness resource values would in turn benefit other related resource values such as wildlife, cultural, soils, vegetation, protected plants, scenic, and visual resources. Designating these lands as wilderness would provide long-term benefits by preserving land to permit the natural ecological processes to continue with little or no human interference. Two important wildlife habitat areas would be protected by wilderness: 373,850 acres of crucial desert bighorn habitat and 46,770 acres of crucial tortoise habitat. All 218,560 acres in the 12 WSAs likely to contain cultural resources would be maintained in an essentially undisturbed condition.

By eliminating soil disturbances associated with mineral operations and ORV use, fragile desert pavement soils would remain undisturbed. Also, wilderness designation would have long-term positive impacts on vegetation and populations of four protected plants by precluding development activities possibly detrimental to their habitats.

Scenic and visual resources would also be maintained. All areas would be designated as VRM Class I areas. Development proposals in Class I areas are more restricted, and the objectives and management requirements permit little or no evident changes in the landscape.

Wilderness values (solitude and naturalness) could be preserved with overall positive impacts due to removing most human influences associated with livestock grazing.

Wilderness designation of the 12 areas would contribute to the diversity of the NWPS in Arizona. Additional opportunities for solitude and primitive recreation would become available for residents of five SMSAs. The geographic distribution of wilderness in Arizona would also be enhanced by the establishment of 12 wilderness areas in southwest Arizona, an area which presently has one National Park Service wilderness (Organ Pipe). The two ecosystems in the WSAs are already represented in the NWPS. While designation would not add new ecosystem types, it would greatly increase existing areas and acreage representing the American Desert Province by adding 89,790 acres of creosotebush-bursage ecosystem and 517,767 acres of paloverde-cactus shrub ecosystem.

Acquisition through land exchange of 6,396 acres of surface and mineral lands and 14,081 acres of mineral rights within or adjacent to the WSAs is recommended.

Acquisition will facilitate wilderness management of the areas and enhance botanical, wildlife, and related multiple resource values. Acquisition of the above acreage would allow such parcels to be incorporated into the wilderness proposals.

Manageability conflicts with mining claim development, ORV use, cherrystem boundaries, and the presence of nonfederal surface/mineral and mineral inholdings might occur in some WSAs with the selection of the *Environmental Protection* alternative. The foremost manageability question is the possible conflict with development of valid mining claims that could occur in some WSAs.

Conclusion. Under the *Environmental Protection* alternative all 12 WSAs (607,557 acres) would be designated wilderness and included in the NWPS. There would be short- and long-term beneficial impacts on wilderness and associated resource values. Opportunities for solitude and primitive recreation would be maintained in a wide variety of natural landscapes. Substantial acreage of crucial desert bighorn sheep and desert tortoise habitat would be protected from surface disturbance. Scenic and visual resources would be preserved unimpaired by human activity. Cultural resources and protected plant habitats would be sustained. The diversity of the NWPS in Arizona would be enhanced by the designation of 12 wilderness areas in southwest Arizona.

The *Environmental Protection* alternative does not include any consideration of manageability in the suitability recommendation. Some wilderness boundaries may require constant patrolling and artificial barriers to maintain wilderness values. Some manageability problems might result from development of nonfederal inholdings, motorized vehicle use, and development of mining claims (if found to have valid rights).

IMPACTS ON LAND USES

Conclusion. This alternative would not affect the routine lands program except that designation of 12 WSAs would preclude further land actions within these areas. Under this alternative a land tenure adjustment program would be developed but several proposed utility corridors would be impacted. Table 4-15 shows each proposed corridor, the wilderness area that would conflict with the corridor's designation, and the extent of the conflict (miles).

TABLE 4-15
UTILITY CORRIDOR AND DESIGNATED WILDERNESS AREA CONFLICTS
Bureau of Land Management, Phoenix District, Arizona

Proposed Corridor	WSAs	Miles of Conflict
1. I-10	2-125, New Water Mountains	4.5
2. El Paso	2-127, Little Horn Mountains	4.0
3. El Paso	2-128, Eagletail Mountains	15.0
4. El Paso	2-157, N. Maricopa Mountains	8.0
5. Liberty - Gila Bend	2-157, N. Maricopa Mountains	6.0
6. San Diego Interconnect	2-136, Face Mountain	5.5
7. San Diego Interconnect	2-138, Signal Mountain	6.0
8. Gila Bend - Santa Rosa	2-164, Butterfield Stage Memorial	6.0
9. Gila Bend - Santa Rosa	2-163, S. Maricopa Mountains	4.5

SOURCE: Phoenix District files

IMPACTS ON WILDLIFE

Rangeland Management Issue

Mule Deer and Sonoran Pronghorn. Under the *Environmental Protection* alternative all existing forage competition between cattle and mule deer would be eliminated. Long-term improvement in browse condition would occur in all areas now heavily used by livestock. This would be a highly significant long-term benefit to mule deer. Similarly this alternative represents a highly significant long-term benefit to Sonoron pronghorn. Competition on Cameron allotment would be totally eliminated.

Desert Bighorn. Desert bighorn sheep exposure to disease would be largely eliminated under this alternative because all livestock grazing would be eliminated.

Desert Tortoise. Competition for annual and perennial forage between cattle and tortoise would be totally eliminated. This would be a significant iong-term benefit.

Riparian Habitat. Some increase in cottonwood reproduction is possible if this alternative is implemented, although cattle would no longer act as agents of dispersion of mesquite seeds. Overall, increase in cottonwood trees would be beneficial for riparian habitat along the Gila River.

Of all alternatives discussed, this alternative represents the only one that would result in significant improvement of Vekol Valley grassland (which provides habitat for six varieties of amphibians), and the dike system (which provides significant waterfowl habitat within Vekol Valley). Grass cover would increase significantly, providing increased habitat for amphibians, and shoreline vegetation would increase around the reservoirs (see Chapter 3, Waterfowl section), thus providing increased escape cover for waterfowl. Other alternatives would be neutral with respect to this unique area.

Short-term loss of some watering points for mule deer and small game would occur if wells were deactivated by

ranchers; however, BLM and the Arizona Game and Fish Department would continue to operate those wells necessary to support existing wildlife populations. Overall, no significant impacts would occur to mule deer and small game.

Sonoran pronghorn would not be significantly affected by loss of livestock waters nor would bighorn sheep, since neither species use livestock waters to any great extent.

Some additional fencing would be needed to prevent livestock trespass but in many areas fencing could be removed, particularly between allotments; hence bighorn sheep would have fewer impediments to migration and gain a slight benefit.

Some waterfowl resting points would be lost because some reservoirs would not be maintained. However, BLM and the Arizona Game and Fish Department would continue to manage and maintain those reservoirs needed to support existing migrations. No significant loss in waterfowl would occur under this alternative nor would other species or habitats be affected.

Under the *Environmental Protection* alternative BLM would monitor recovery of wildlife habitat. A benefit of monitoring under this alternative is that more studies could be devoted to specific wildlife habitat management problems and less to documenting and identifying conflicts between livestock and wildlife. This would be a significant benefit to endangered species such as Sonoran pronghorn and state-listed threatened species (specifically desert bighorn and desert tortoise).

Conclusion. Wildlife would significantly benefit under this alternative, although improvement of habitat would occur in the long term.

Wilderness Issue

Conclusion. Under the *Environmental Protection* alternative, 373,850 acres of crucial desert bighorn sheep habitat and 46,770 acres of crucial desert tortoise habitat would be protected by wilderness designation (Table 4-16). This amounts to almost two and a half times as much protected bighorn sheep habitat acreage and almost four and a half times as much protected tortoise habitat acreage as are listed in the *Proposed Action*. This represents a highly significant benefit for both species.

Land Tenure Issue

Conclusion. Land disposal and split mineral estate impacts would be the same under the *Environmental Protection* alternative as under the *Proposed Action*. Under this alternative BLM would acquire 15,640 acres of riparian habitat. This acreage, in addition to existing BLM lands within the Gila River channel, comprises virtually all the valuable habitat (saltcedar, cattail, or mesquite thickets). This would provide the greatest degree of protection for riparian habitat of all the alternatives. Lands exchanged for desert bighorn sheep habitat management would remain the same as under the *Proposed Action*.

TABLE 4-16
ACRES OF HABITAT PROTECTED UNDER THE ENVIRONMENTAL PROTECTION ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

WSAs	Crucial Desert Bighorn Sheep Habitat*	Crucial Desert Tortoise Habitat**
New Water Mountains	34,320	6,860
Little Horn Mountains West	12,660	0
Little Horn Mountains	59,680	0
Eagletail Mountains	70,200	0
East Clanton Hills	18,280	5,480
Face Mountain	0	0
Signal Mountain	7,860	980
Woolsey Peak	59,680	0
North Maricopa Mountains	39,280	7,050
South Maricopa Mountains	42,860	17,830
Butterfield Stage Memorial	6,310	2,870
Table Top Mountains	22,780	5,700
TOTAL	373,850	46,770

* Crucial desert bighorn sheep habitat: habitat necessary to maintain current bighorn populations. Population density varies.
** Crucial desert tortoise habitat: habitat with tortoise population densities of 50 tortoise per square mile or greater. All WSAs contain tortoise populations.
SOURCE: Phoenix District files

Utility Corridor Issue

Conclusion. Utility corridor impacts to wildlife would be the same as under the *Proposed Action*.

IMPACTS ON MINERALS AND ENERGY

Conclusion. The *Environmental Protection* alternative would have a significant adverse impact on the minerals industry. Designating 12 WSAs as wilderness would withdraw 607,557 acres from mineral entry. This represents approximately 30 percent of the Lower Gila South RMP/EIS area that would be closed to any type of mineral exploration and development. This withdrawal would adversely affect 3,152 mining claims and 607,557 acres of oil and gas leases. Several areas of high mineral potential will be withdrawn. (See Lower Gila South Wilderness Supplement for details.) Since most minerals of any value lie within the mountain ranges, this alternative would essentially lock up the most significant areas where mining would most likely take place.

Acquisition of 47,198 acres would be beneficial because these areas would be open to mineral exploration and development. Acquiring 112,160 acres of state and private mineral estate would be beneficial, allowing BLM to control both surface and subsurface lands in this RMP/EIS area.

IMPACTS ON SOILS

The elimination of livestock would be beneficial in reducing soil erosion in and adjacent to the major drainageways and the Gila River. Any proposed soil-disturbing projects in the high soil-blowing and the severe-erosion drainageways would be evaluated on a case-by-case basis.

Conclusion. The elimination of livestock grazing would be beneficial to the fragile desert soils (desert pavement). Any proposed soil-disturbing projects in the fragile desert soil areas would be evaluated using site-specific environmental assessments on a case-by-case basis.

IMPACTS ON CULTURAL RESOURCES

Conclusion. Under the *Environmental Protection* alternative impacts to cultural resources for all issues except wilderness would be the same as the *Proposed Action.* Designating 12 WSAs (607,557 acres) as wilderness would result in added protection for more than twice as many acres with a high probability of containing cultural resources than under the *Proposed Action.* Approximately 36 percent of the proposed WSA acres (218,560 acres) may contain cultural resources which would be beneficially affected (see Table 4–6). In addition the historic Butterfield Stage Route and additional acres in the Maricopa and Gila Bend Mountains with cultural/religious significance would be beneficially affected.

IMPACTS ON RECREATION

The cumulative impacts of the *Environmental Protection* alternative would close 607,557 acres, 366.50 miles of vehicle ways, and 7.35 miles of road to ORV use. In addition, there would be a shifting of the types of recreation use now occurring, including an estimated increase in recreation use of 5,200 visitor days/year. There would also be 607,557 acres of public land managed as VRM Class I and 132,842 fewer acres managed as Class II, 361,305 fewer acres managed as Class III, and 113,410 fewer acres managed as Class IV. The visual resources on 607,557 acres of public land managed as VRM Class I would be better protected through application of the more restrictive Class I management guidelines.

IMPACTS ON ECONOMIC CONDITIONS

This section describes the economic impact of the *Environmental Protection* alternative on RMP/EIS area ranchers and the economy of the three-county economic study area. Impacts from expected changes in outdoor recreation use and oil and gas lease revenues will also be described.

Ranch Budgets

Small, Medium, and Large Ranches. Under the *Environmental Protection* alternative the authorized grazing preference on all ranches would be cancelled. RMP/EIS area ranchers are from 86 to 96 percent dependent on BLM forage. Because of the high dependency it is assumed that all RMP/EIS area ranchers would no longer be in business under this alternative.

Ranch Finance

Under the *Environmental Protection* alternative ranches in the EIS area would no longer be economic units, thus their value would be reduced to zero. The typical small rancher would lose $72,000 in ranch value, the typical medium-size rancher would lose $241,500, and the typical large-size rancher would lose $894,000. Ranch operators who owe money on their ranch operation would be encumbered with no method to repay this debt other than to seek outside employment.

Regional Economics

The *Environmental Protection* alternative would eliminate all livestock sales and hired labor on all RMP/EIS area ranches. The 17 RMP/EIS area ranches' $739,493 annual contribution to the ESA's total livestock sales would be lost. In addition, the 13.8 work-years of hired labor now used on the RMP/EIS area ranches would no longer be needed. The loss of the RMP/EIS area's ranch operations, however, would not significantly impact the economy of the ESA.

Recreation Economics

Designating 12 WSAs as wilderness under the *Environmental Protection* alternative is expected to increase visitor use in the RMP/EIS area by 5,900 visitor days. Annual recreation related expenditures would thus increase by $19,864, an insignificant amount when viewed on a regional level.

Mineral Economics

The 12 WSAs proposed for designation under this alternative contain deposits of various metallic and

nonmetallic minerals, but reliable reserve estimates for these commodities and their locations are not known. Some of the deposits of gold, silver, and copper could prove economically viable. However, it is nearly impossible with existing information to estimate the impact that extraction of these and other mineral commodities would have on the local economy and work force.

Wilderness designation would prohibit mineral entry in the 12 WSAs proposed for designation. Also, development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This could result in additional costs to mine operators and therefore discourage development.

The 12 WSAs proposed for designation are all classified as having a low potential for oil and gas development. A number of oil and gas leases have been established in the WSAs, but to date no production has occurred. Currently the lessees pay the government one dollar per acre per year for these oil and gas leases. One-half of the lease revenues is then returned to the state. Under the *Environmental Protection* alternative 607,557 designated acres would be withdrawn from BLM's oil and gas leasing program. The loss of this acreage from the leasing program would result in a loss of potential lease revenues for both BLM and the state. Table 4–12 shows the acres which would be withdrawn from oil and gas leasing and the potential losses in lease revenue for BLM and the state. Under this alternative BLM and the state would each potentially lose $303,778. When compared to the total oil and gas lease collections BLM receives nationally, the loss of this revenue would be less than one percent.

Conclusion. Under the *Environmental Protection* alternative individual ranchers in the RMP/EIS area would no longer be able to remain in business. In addition, ranch operators who owe money on their ranch operations would be encumbered with that debt with no ranch income available to repay that debt. The loss of the employment and earnings derived from RMP/EIS area ranch operations would not significantly impact the economy of the ESA.

Under this alternative economic impacts to the minerals industry cannot be determined because of the lack of any specific development plans for the minerals present in each WSA. The withdrawal of the 12 WSAs from mineral entry would potentially have long-term impacts to the ESA's economy.

IMPACTS ON SOCIAL ELEMENTS

Conclusion. Under the *Environmental Protection* alternative ranchers in the short and long term would be negatively impacted due to losses in income and permit value. Ranchers with a high dependency on BLM AUMs would be severely affected due to the loss of all BLM AUMs. The attitude of affected ranchers would probably be extremely negative toward the BLM and this alternative.

Mitigating Measures

The Management Guidance Common to All Alternatives section in Chapter 2 identifies by resource the measures that will be taken to mitigate possible impacts to the natural environment of the area. Management is committed to following the practices and procedures listed in an effort to protect the environment of the Lower Gila South RMP/EIS area.

The interdisciplinary team did not identify additional mitigating measures needed to avoid adverse impacts of the *Proposed Action* or the alternative..

Unavoidable Adverse Impacts

Unavoidable adverse impacts are the adverse impacts of the *Proposed Action* that cannot be mitigated. Such impacts are often referred to as residual impacts. They are unavoidable because the *Proposed Action* directly conflicts with other values.

The unavoidable adverse impacts of the *Proposed Action* are as follows.

- Wilderness values may be lost on 417,807 acres as a result of mineral development, motorized vehicle use, and rights-of-way development.
- The *Proposed Action* would close 189,750 acres to mineral entry. No prospecting, exploration, or mining would be allowed, subject to valid existing rights. A total of 189,750 acres of oil and gas leases and 199 mining claims would be affected.
- Off-road vehicle use would be affected by the closure of 93.55 miles of vehicle ways, 6.0 miles of roads, and 189,750 acres of wilderness.

Irreversible and Irretrievable Commitments of Resources

This section identified the irreversible and irretrievable commitment of resources resulting from the *Proposed Action.* The term irreversible refers to what is incapable of being reversed; once something is started, it would continue. The term irretrievable means irrecoverable; once something is used, it cannot be replaced.

The *Proposed Action* proposes no irreversible or irretrievable commitment of resources other than the

possible loss or degradation of 417,807 acres of natural and wilderness values within those areas not designated wilderness.

Relationship Between Local Short-Term Uses of Man's Environment and Maintenance and Enhancement of Long-Term Productivity

The short-term uses of man's environment will not change significantly from the present. In the long term, 147,090 acres of desert bighorn sheep and 10,520 acres of desert tortoise habitat will be protected within those areas designated wilderness under the *Proposed Action*. This will maintain or improve the habitat areas protected.

Chapter 5

CONSULTATION AND COORDINATION

CHAPTER 5

CONSULTATION AND COORDINATION

Introduction

The Lower Gila South Resource Management Plan/Environmental Impact Statement (RMP/EIS) was prepared by an interdisciplinary team of resource specialists from the Lower Gila Resource Area, Phoenix District, and Arizona State Office. Writing of the RMP/EIS began in September 1983, following a complex process that began in 1978. This process included wilderness and rangeland inventories, public participation, interagency coordination, and preparation of the management situation analysis (on file in the Phoenix District Office). Consultation and coordination with agencies, organizations, and individuals occurred in a variety of ways throughout the planning process.

Scoping and Public Participation

The Phoenix District Office and the Lower Gila Resource Area Office invited public participation throughout the development of this RMP/EIS. The following list summarizes the actions taken.

1978–1979	Initial wilderness inventory and public comment period.
1979–1980	Intensive wilderness inventory and public comment period.
November 1980	Mailout and news release to inform the public and invite public participation in the planning process.
November 1980	Notice of Intent to Prepare the Lower Gila South Resource Management Plan published in the *Federal Register.*
December 1980	Issue identification mailout to interested parties.
December 1980	Special issue identification mailout to five Indian tribes in area.
January 1981	District Multiple-Use Advisory Council briefing.
January 1981	Public scoping meetings conducted in Ajo, Gila Bend, Quartzsite, Buckeye, and Phoenix.
March 1981	Public meeting summaries mailed to meeting attendees.
March and April 1981	Local, state, and federal government officials contacted individually for their contribution to issue identification.
April 1981	District Multiple-Use Advisory Council briefing on status of issue development.
April 1983	Scoping material mailed to concerned individuals and agencies.
May 24 to 26, 1983	Public meetings held in Gila Bend, Phoenix, and Tucson.
June 10, 1983	Notice of Intent to Prepare an EIS for the Lower Gila South Planning Area published in the *Federal Register.*
June 15, 1983	Letters sent to Indian tribal leaders.

In addition, BLM specialists met many times in the field and at other locations with interested parties. BLM representatives consulted with the Soil Conservation Service, Arizona State Land Department, and Arizona Game and Fish Department to check resource data, coordinate methodologies, and exchange information.

List of Agencies, Organizations, and Persons to Whom Copies of This Statement Have Been Sent

BLM will request comments on the draft EIS from all affected grazing permittees, interested individuals, federal and state agencies, and interest groups. Due to the size of the mailing list (800), the following is a partial list of those receiving the document.

FEDERAL AGENCIES

Advisory Council on Historic Preservation
Environmental Protection Agency
Department of Agriculture
  Forest Service
  Soil Conservation Service
Department of Defense
  Army Corps of Engineers
  U.S. Air Force
Department of Energy
Department of the Interior
  Bureau of Mines
  Bureau of Indian Affairs
  Bureau of Reclamation
  Fish and Wildlife Service
  Geological Survey
  National Park Service
Department of Transportation
  Federal Aviation Administration

ARIZONA STATE AGENCIES

Arizona Commission of Agriculture and Horticulture
Arizona Department of Health Services
Arizona Department of Library, Archives, and Public Records
Arizona Department of Transportation
Arizona Game and Fish Department
Arizona Natural Heritage Program
Arizona Office of Economic Planning and Development
Arizona Oil and Gas Commission
Arizona Outdoor Recreation Coordinating Commission
Arizona State Clearinghouse
Arizona State Historic Preservation Officer
Arizona State Land Commissioner
Arizona State Parks Board
Arizona Water Resources Department
Bureau of Geology and Mineral Technology
Governor of Arizona
Governor's Commission on Arizona Environment
Mineral Resource Department

LOCAL AGENCIES

Central Arizona Association of Governments
City of Buckeye
City of Gila Bend
City of Phoenix
City of Tucson
District IV Council of Governments
District V Council of Governments
La Paz County Board of Supervisors
La Paz County Planning and Zoning Department
Maricopa Council of Governments
Maricopa County Board of Supervisors
Maricopa County Planning and Zoning Commission
Pima Association of Governments
Pima County Board of Supervisors
Pima County Planning and Zoning Department
Pinal County Board of Supervisors
Pinal County Planning and Zoning Department
Yuma County Board of Supervisors
Yuma County Planning and Zoning Department

INDIAN TRIBES AND COUNCILS

Fort Mojave Tribal Council
Chemehuevi Tribal Council
Quechan Tribal Council
Cocopah Tribal Council
Colorado River Indian Tribes
Havasupai Tribal Council
Hualapai Tribal Council
Tonto Apache Indian Tribal Council
Yavapai-Apache Community Council
Yavapai-Prescott Board of Directors
White Mountain Apache Tribal Council
Hopi Tribal Council
Kaibab Band of Paiute Indians
Papago Council
Fort McDowell Mohave-Apache Community Council
Pascua Yaqui Tribal Council
Ak-Chin Indian Community
Gila River Indian Community
Salt River Pima-Maricopa Community Council
San Carlos Apache Tribal Council
Navajo Tribal Council

OTHER ORGANIZATIONS

Arizona Cattle Growers Association
Arizona Desert Bighorn Sheep Society
Arizona Mining Association
Arizona Mining and Prospecting Association
Arizona Prospectors and Small Mine Operators Association
Arizona Wildlife Federation
Arizona Wool Growers Association
Arizona 4-Wheel Drive Association
Audubon Society
Defenders of Wildlife
Desert Tortoise Council
League of Women Voters
Legal Organizations
Mining Companies
Phoenix District Advisory Council
National Audubon Society
National Council of Public Land Users
Natural Resources Defense Council, Inc.
News Media
Oil and Gas Companies
ORV Clubs
Phoenix-Lower Gila Resource Areas Grazing Advisory Board
Public Lands Council
Rockhound Clubs
Sierra Club (Local and National)
The Wilderness Society
Utility Companies
Wild Burro Protection Association
Wildlife Society

ELECTED REPRESENTATIVES

FEDERAL

Senator Dennis DeConcini
Senator Barry Goldwater
Representative John McCain
Representative Jim McNulty
Representative Eldon Rudd
Representative Bob Stump
Representative Morris K. Udall

STATE

Senator Jones Osborn
Senator Polly Getzwiller
Senator Peter Rios
Senator S.H. "Hal" Runyon
Representative Bob Denny
Representative Henry Evans
Representative Jim Hartdegen
Representative Roy Hudson
Representative Frank McElhaney
Representative Robert McLendon
Representative Richard Pacheco
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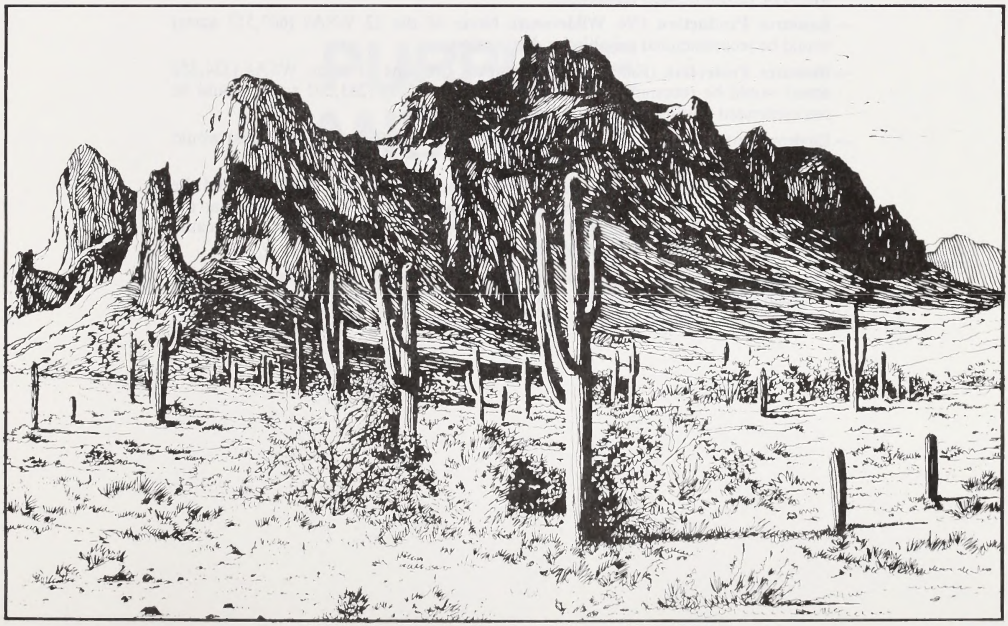
LOWER GILA SOUTH

RMP/EIS AREA
WILDERNESS SUPPLEMENT



LOWER GILA SOUTH WILDERNESS SUPPLEMENT

ABSTRACT

The Lower Gila South Wilderness Supplement addresses 12 wilderness study areas (WSAs) in the Lower Gila South RMP/EIS area. The impacts resulting from the designation and nondesignation of all or part of these 12 WSAs are described for each of the wilderness alternatives chosen for study. The alternatives analyzed are:

— **Proposed Action.** Portions of four WSAs (189,750 acres) would be recommended suitable for wilderness designation, and eight WSAs (417,807 acres) would be recommended unsuitable.

— **Resource Production (No Wilderness).** None of the 12 WSAs (607,557 acres) would be recommended suitable for designation.

— **Resource Protection (Enhanced Wilderness).** Portions of seven WSAs (324,350 acres) would be recommended suitable and five WSAs (283,207 acres) would be recommended unsuitable for designation.

— **Environmental Protection (All Wilderness).** Twelve WSAs (607,557 acres) would be recommended as suitable for designation.

This supplement is an integral part of the Lower Gila South RMP/EIS, and the wilderness alternatives addressed in this supplement are the same, except that the RMP's *Resource Production* and *No Action* alternatives were combined because these alternatives both recommended no wilderness.

This supplement is designed to supply Congress with enough detailed information about each wilderness alternative to enable them to make informed decisions about wilderness designations in the Lower Gila South RMP/EIS area.

SUPPLEMENT CHAPTER 1

PURPOSE AND NEED

WILDERNESS SUPPLEMENT—CHAPTER 1

PURPOSE AND NEED FOR ACTION

Introduction

The Lower Gila South Wilderness Supplement provides a detailed wilderness study and environmental analysis as an addition to the Lower Gila South Resource Management Plan/Environmental Impact Statement (RMP/EIS). It describes in detail the resources present in each of the 12 wilderness study areas (WSAs) in the Lower Gila South RMP/EIS area (Table S-1). The wilderness supplement then compares the environmental consequences, by WSA and alternative, of designating or not designating all or portions of the 12 WSAs as wilderness.

TABLE S-1
WILDERNESS STUDY AREAS--LOWER GILA SOUTH RMP/EIS
Bureau of Land Management, Phoenix District, Arizona

WSAs	Unit Numbers	Acreage
New Water Mountains	AZ-020-125	40,375
Little Horn Mountains West	AZ-020-126A	12,660
Little Horn Mountains	AZ-020-127	90,430
Eagletail Mountains	AZ-020-128	117,065
East Clanton Hills	AZ-020-129	36,560
Face Mountain	AZ-020-136	27,575
Signal Mountain	AZ-020-138	19,640
Woolsey Peak	AZ-020-142/144	73,930
North Maricopa Mountains	AZ-020-157	70,468
South Maricopa Mountains	AZ-020-163	71,320
Butterfield Stage Memorial	AZ-020-164	9,566
Table Top Mountains	AZ-020-172	37,968
TOTAL		607,557

SOURCE: Phoenix District files

The Lower Gila South RMP/EIS and Wilderness Supplement will make only preliminary recommendations as to whether the 12 WSAs are suitable or nonsuitable for inclusion into the National Wilderness Preservation System (NWPS). Only Congress can designate a WSA as wilderness or release it from the wilderness review process.

Purpose and Need For Action

This wilderness supplement is being developed in response to Section 603(a) of the Federal Land Policy and Management Act (FLPMA) of 1976. FLPMA made wilderness preservation one of BLM's multiple use mandates and made the preservation of wilderness values one of the resources BLM considers in multiple use planning. FLPMA directed the Bureau of Land Management (BLM) to inventory, study, and then report to Congress—through the Secretary of the Interior and the President—the public lands suitable for inclusion in the National Wilderness Preservation System (NWPS).

The purpose of this wilderness supplement is threefold: (1) to evaluate the suitability for wilderness designation of 12 WSAs in the Lower Gila South RMP/EIS area based on the application of BLM's Wilderness Study Policy; (2) to analyze the potential environmental impacts of designating or not designating as wilderness all or portions of 12 WSAs; and (3) to make recommendations to the Secretary of the Interior on the inclusion of these WSAs in the NWPS.

In compliance with the National Environmental Policy Act, this wilderness supplement fully describes the environmental effects of implementing or not implementing wilderness management on public lands. The *Proposed Action* represents BLM's preliminary wilderness recommendations for these 12 WSAs. These recommendations are subject to change during public and administrative review of this document.

BLM has set the end of fiscal year 1986 for completing wilderness studies and reporting wilderness suitability recommendations to the Secretary of the Interior. FLPMA requires the Secretary to report wilderness recommendations to the President by October 21, 1991 (FLPMA, Section 603(a)). The President must report final recommendations to Congress within two years (October 21, 1993). Congress has no time limit for acting upon the President's recommendations.

Wilderness Review Process

To accomplish the mandate of Section 603(a) of FLPMA, BLM developed the framework for a three-phase wilderness review process: inventory, study, and reporting.

Inventory. The inventory phase identified areas with wilderness characteristics, as defined by Congress in the Wilderness Act of 1964, and established them as WSAs. Guidelines for conducting the inventory phase were set forth primarily in BLM's "Wilderness Inventory Handbook" of 1978. The following key factors were considered in identifying roadless areas with wilderness characteristics:

Size: The area must have at least 5,000 contiguous roadless acres of public land.

Naturalness: The area's human imprints must be substantially unnoticeable.

Outstanding Opportunities: The area must offer either an outstanding opportunity for solitude or an outstanding opportunity for primitive and unconfined recreation.

The BLM also considered the extent to which supplemental wilderness values were present. These values include: ecological, geological, scientific, educational, scenic, and historical value.

The wilderness inventory began in the fall of 1978 when BLM's Phoenix District identified all roadless areas of 5,000 acres or more. Areas clearly lacking wilderness characteristics were sorted out from lands that might have those characteristics. After a 90-day public review period, lands believed to meet wilderness criteria were proposed for more intensive inventory. This intensive inventory phase involved on-the-ground inspections to verify the wilderness qualities and was followed by a 90-day public review period. The inventory process was completed for the Lower Gila South Planning Area in November 1980.

Study. The study phase, of which this document is a part, involves determining, through careful analysis, which WSAs will be recommended as suitable or nonsuitable for wilderness designation. Suitable and nonsuitable recommendations for the 12 areas being studied for wilderness are determined through BLM's multiple resource planning process, according to the criteria and quality standards contained in BLM's Wilderness Study Policy (Federal Register, 47:23 February 3, 1982). (Copies of the Wilderness Study Policy are available in the Phoenix District Office.)

Reporting. The reporting phase will consist of reporting suitable and nonsuitable recommendations to Congress through the Secretary of the Interior and the President. The reporting phase begins after completion of the draft RMP/EIS. A final Lower Gila South Wilderness EIS and Wilderness Study Report (WSR) will be prepared and will be submitted by the Arizona State Director to the BLM Director and other Department officials for approval. This final EIS is then printed and filed with the Environmental Protection Agency.

The final EIS, WSRs and public hearing records will be considered by the Secretary of the Interior in making final wilderness recommendations to the President. These recommendations could, however, differ from the preliminary recommendations made in the Lower Gila South RMP/EIS.

Mineral resources survey reports will be prepared by the U.S. Geological Survey and the Bureau of Mines on all areas preliminarily recommended as suitable for wilderness designation by BLM. The mineral resources reports will become part of the information used by the Secretary of the Interior in making final recommendations on wilderness suitability.

Scoping (Issue Identification)

Scoping served to identify the significant environmental issues to be analyzed in the RMP/EIS and eliminated from detailed study insignificant issues or issues addressed in earlier environmental reviews. The significant environmental issues were then incorporated into a range of alternatives, and the impacts of implementing such alternatives are analyzed in the Lower Gila South RMP/EIS, of which this supplement is a part.

BLM held several public scoping meetings to help identify public concerns about wilderness. Other concerns were identified by reviewing public comments received during the wilderness inventory. Based on professional judgment, BLM resource specialists also identified issues.

A description of all phases of the scoping process is presented in Chapter 5 (Consultation and Coordination) of the RMP/EIS. In addition, BLM took the following steps to involve mineral interests in the planning process:

- Letters requesting mineral information sent to energy and mineral industries and individual claim holders with interest in or claims in or near the WSA—November 1981 and March 1982.
- Meetings with interested energy and minerals groups—December 1981 and January 1982.

RESULTS OF SCOPING

The team used the scoping process to identify and address public and management concerns associated with the the 12 WSAs considered for wilderness designation. The team then defined which concerns were significant and would be analyzed in the EIS. The following concerns were identified as significant.

Minerals and Energy Exploration and Development

- Impacts of curtailing mineral exploration and development through wilderness designation.

Range Management

- Impacts of wilderness designation on authorized grazing preferences (See Glossary), future range developments, ongoing range management practices, rancher access, and wildlife management.

Recreation

- Impacts of wilderness designation on existing recreation uses, including rock collecting and motorized recreation use.

Wilderness Management

- Potential for BLM to effectively manage and preserve wilderness values within designated wilderness.
- Impacts of state and private inholdings and nonfederal mineral rights on the manageability of seven WSAs.

Wilderness Resource

- Quality of wilderness values.
- Impacts of nondesignation on wilderness values.
- Impacts of boundary changes on wilderness values.

Alternatives

Through the scoping process, BLM identified four alternatives for analysis in this wilderness supplement. These alternatives provide BLM managers with a wide range of options from which they can develop wilderness recommendations. The four alternatives are described in detail in Chapter 2 of this supplement.

Resource Management Plan/ Environmental Impact Statement (RMP/EIS)

The wilderness study and environmental analysis for the 12 WSAs presented in this supplement, is being conducted through and integrated with the Lower Gila South Resource Management Plan/Environmental Impact Statement. The wilderness alternatives addressed in this supplement are the same as those presented in the RMP/EIS, except that the RMP's *Resource Production* and *No Action* alternatives were combined because these alternatives both recommended no wilderness.

This supplement is necessary to supply Congress with enough detailed information about each wilderness alternative to enable them to make informed decisions about wilderness designation in the Lower Gila South RMP/EIS area.

Interim Management Policy

Until Congress either designates the WSAs as wilderness or releases them from interim management, BLM will manage them under the Interim Management Policy (IMP) and Guidelines for Lands Under Wilderness Review. (Copies are available in the Phoenix District Office.) The IMP guides BLM in complying with section 603(c) of FLPMA, which states:

> "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable laws in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act (October 21, 1976)."

Management of Designated Wilderness

If a WSA is designated by Congress, it will be managed under the WildLerness Act, FLPMA, BLM's Wilderness Management Policy, and any requirements of the law designating the wilderness area. These laws and policies direct BLM to preserve the wilderness character of the area. In dealing with use in wilderness areas, the Wilderness Act states that such areas will be devoted to the public purposes of recreation, education, conservation, and scenic, scientific, and historical uses. The Wilderness Act also sets the following limits on use:

> "Except as specifically provided for in this Act and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized

equipment or motorboats (no landing of aircraft, no other forms of transport), and no structures or installation within any such area."

The following are other management policies that apply to designated wilderness areas:

- Guide services could be allowed within wilderness areas to serve recreation or other wilderness purposes.
- The Wilderness Act does not affect state water laws or the state responsibilities for wildlife.
- Access to state or privately owned inholdings within wilderness areas will be guaranteed.
- If in the public interest, the President may authorize establishing and maintaining reservoirs, power projects, transmission lines, roads, and other such facilities in wilderness areas.
- Projects existing before wilderness designation can be maintained by traditional methods.
- Livestock grazing can continue subject to the Department of Interior regulations.
- New projects (not requiring a new road for access) such as stock ponds, spring developments, pipelines, and fences could be allowed after a review of their impacts through an environmental assessment.
- Except on valid existing claims and leases, mining and mineral leasing would be prohibited in wilderness areas after designation.
- The use of aircraft or motorboats, where their uses have already become established, may be allowed to continue, and aircraft and motorboats could be used for fire, insect, and disease control. These activities would be subject to conditions deemed desirable by the managing department head.

SUPPLEMENT CHAPTER 2

ALTERNATIVES

WILDERNESS SUPPLEMENT—CHAPTER 2

DESCRIPTION OF THE ALTERNATIVES

Introduction

This chapter describes in detail the four alternatives selected for analysis in this wilderness supplement and briefly describes the wilderness manageability of each wilderness study area (WSA). The description of the alternatives will allow the reader to compare and weigh the merits of each. To provide the public and the decisionmaker with a convenient tool for comparing impacts, defining issues, and reaching conclusions, this chapter ends with a comparative summary of the impacts of each alternative. Maps showing the WSA boundaries and the boundaries for each alternative are located at the end of this chapter.

Formulation of Alternatives

BLM began developing alternatives for each WSA during the preparation of the Lower Gila South Management Situation Analysis (MSA). The wilderness alternatives analyzed in this supplement are components of the five alternatives (*Proposed Action, Resource Production, No Action, Resource Protection* and *Environmental Protection*) developed and analyzed in the Lower Gila South Resource Management Plan/Environmental Impact Statement. Each of the RMP/EIS alternatives projected different combinations of public land uses to respond to the identified planning issues. Within each RMP/EIS alternative, wilderness recommendations were developed for each of the 12 WSAs being studied for possible designation as wilderness.

The four alternatives analyzed in the wilderness supplement are the same as those wilderness alternatives analyzed in the RMP/EIS. These alternatives are the *Proposed Action, Resource Production* (No Wilderness), *Resource Protection* (Enhanced Wilderness), and *Environmental Protection* (All Wilderness). In this wilderness supplement the RMP's *No Action* and *Resource Production* alternatives have been combined because both these RMP/EIS alternatives recommend no wilderness.

BLM's Wilderness Study Policy (BLM, 1982) requires the formulation of all wilderness and no wilderness proposals for each WSA. To provide a full range of alternatives, BLM used the scoping process, the Lower Gila South MSA and BLM's Wilderness Study Policy to formulate the wilderness recommendations described under the *Proposed Action* and *Resource Protection* (Enhanced Wilderness) alternatives.

Suitable and nonsuitable public land acreage and the nonfederal surface and mineral rights recommended for acquisition through land exchange are described by WSA and alternative in Table S-2.

Description of the Alternatives

PROPOSED ACTION

This alternative would place primary emphasis on making public land and resources available for use and development, while also protecting the highest quality wilderness areas. The management policies under this alternative would (1) place the highest priority on preservation and improvement of wilderness values in designated wilderness, and (2) manage the areas not designated under the guidelines described in the Lower Gila South Resource Management Plan.

The *Proposed Action* would designate as wilderness portions of the New Water Mountains, Eagletail Mountains, Woolsey Peak, and Table Top Mountains WSAs (totaling 189,750 acres). These areas would be managed to preserve their naturalness, solitude, and primitive recreation opportunities in accordance with BLM's Wilderness Management Policy and the Wilderness Act of 1964. A wilderness management plan would be developed and implemented for each area designated by Congress. (Major provisions of wilderness management are summarized in the Management of Designated Wilderness section in Chapter 1 of this supplement.)

Eight entire WSAs and portions of the four remaining WSAs would not be designated wilderness. Lands not designated by Congress would be released from the wilderness review process and would be returned to multiple use management (see Glossary) with the following provisions:

- Open area to mineral entry and leasing (except in the New Water Mountains WSA, which is under a withdrawal application) subject to the Surface Management Regulations (43 CFR 3809).
- Allow livestock operations with maintenance of existing rangeland developments and construction of new range improvements without any wilderness constraints.
- Open area for motorized vehicle use, including ORVs.

TABLE S-2
WSA RECOMMENDATIONS BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

WSA	Public Land Acres		Recommended Land Acquisition*	
	Suitable Acres	Nonsuitable Acres	Surface and Mineral Ownership	Mineral Estate Only
PROPOSED ACTION				
New Water Mountains	24,120	16,255	0	0
Little Horn Mountains West	0	12,660	0	0
Little Horn Mountains	0	90,430	0	0
Eagletail Mountains	70,230	46,835	2,643	561
East Clanton Hills	0	36,560	0	0
Face Mountain	0	27,575	0	0
Signal Mountain	0	19,640	0	0
Woolsey Peak	61,000	12,930	0	0
North Maricopa Mountains	0	70,468	0	0
South Maricopa Mountains	0	71,320	0	0
Butterfield Stage Memorial	0	9,566	0	0
Table Top Mountains	34,400	3,568	0	0
TOTALS	189,750	417,807	2,643	561
RESOURCE PRODUCTION (NO WILDERNESS) ALTERNATIVE				
New Water Mountains	0	40,375	0	0
Little Horn Mountains West	0	12,660	0	0
Little Horn Mountains	0	90,430	0	0
Eagletail Mountains	0	117,065	0	0
East Clanton Hills	0	36,560	0	0
Face Mountain	0	27,575	0	0
Signal Mountain	0	19,640	0	0
Woolsey Peak	0	73,930	0	0
North Maricopa Mountains	0	70,468	0	0
South Maricopa Mountains	0	71,320	0	0
Butterfield Stage Memorial	0	9,566	0	0
Table Top Mountains	0	37,968	0	0
TOTALS	0	607,557	0	0
RESOURCE PROTECTION ALTERNATIVE				
New Water Mountains	24,120	16,255	0	0
Little Horn Mountains West	0	12,660	0	0
Little Horn Mountains	49,940	40,490	440	520
Eagletail Mountains	88,660	28,405	2,643	1,601
East Clanton Hills	0	36,560	0	0
Face Mountain	26,390	1,185	0	0
Signal Mountain	0	19,640	0	0
Woolsey Peak	61,000	12,930	0	0
North Maricopa Mountains	39,840	30,628	0	1,280
South Maricopa Mountains	0	71,320	0	0
Butterfield Stage Memorial	0	9,566	0	0
Table Top Mountains	34,400	3,568	0	0
TOTALS	324,350	283,207	3,083	3,401
ENVIRONMENTAL PROTECTION (ALL WILDERNESS) ALTERNATIVE				
New Water Mountains	40,375	0	0	520
Little Horn Mountains West	12,660	0	(40)	1,240
Little Horn Mountains	90,430	0	1,360	1,400
Eagletail Mountains	117,065	0	4,836	2,561
East Clanton Hills	36,560	0	0	40
Face Mountain	27,575	0	0	0
Signal Mountain	19,640	0	0	1,280
Woolsey Peak	73,930	0	0	0
North Maricopa Mountains	70,468	0	(160)	4,960
South Maricopa Mountains	71,320	0	0	800
Butterfield Stage Memorial	9,566	0	0	0
Table Top Mountains	37,968	0	0	1,280
TOTALS	607,557	0	6,396	14,081

* All parcels recommended for acquisition through exchange are State of Arizona lands, except parcels in parentheses that are privately owned.

SOURCE: Phoenix District Office files

- Manage under VRM Class II, III, or IV guidelines which allow some activities affecting the scenery.
- Allow rights-of-way and other multiple land use activities.

The following is a brief description of the *Proposed Action* by WSA.

New Water Mountains (Map 2–1). The *Proposed Action* would designate 24,120 acres as wilderness and return 16,255 acres to other multiple use management.

The suitable area encompasses the WSA's most manageable and highest quality wilderness, scenic, and wildlife features. These features are centered on the New Water Mountains' ridgeline and Black Mesa. The modified boundary excludes some mining claims and some areas having mineral potential. The modified boundary also excludes lands that may be difficult to manage as wilderness because of easy ORV accessibility. Also excluded is the WSA's northwest portion with its lower wilderness values. The excluded area's less rugged topography and nearness to Interstate 10 diminishes its value as wilderness.

The modified boundaries, formed by legal subdivision lines and topography, provide nearly self-managing boundaries that discourage casual vehicle use. Also, two short cherrystem roads on the area's west side would be closed by the *Proposed Action* to facilitate wilderness management and protect natural values. The suitable area boundaries are compatible with and enhance the contiguous U.S. Fish and Wildlife Service's Kofa Wilderness proposal (administratively endorsed for wilderness).

Under the *Proposed Action* the 16,255 acres not designated would be managed for a wide range of resources and uses including wildlife habitat, livestock grazing, mining, and recreation. Most of this area would remain closed to new mineral entry due to the existing U.S. Fish and Wildlife Service withdrawal application.

Little Horn Mountains West (Map 2–2). None of this WSA's 12,660 acres would be designated as wilderness under the *Proposed Action* because of low quality wilderness values. The WSA lacks outstanding primitive recreation opportunities and has no special features or resource values unique to the surrounding area. Also, the WSA could have manageability problems because of the area's mineral resources (the WSA's south half is staked with mining claims) and nonfederal inholdings. These lands would be managed under BLM multiple use management principles.

Little Horn Mountains (Map 2–2). None of the Little Horn Mountains WSA's 90,430 acres are recommended for wilderness designation under the *Proposed Action.* All WSA lands would be returned to multiple use management. Though the WSA meets all basic wilderness criteria, its wilderness values are not considered exceptional. Similar and higher quality characteristics of solitude, primitive recreation, scenic, wildlife, and botanical values are present to a greater degree in other nearby areas such as the administratively endorsed 570,600-acre Kofa wilderness proposal, five miles to the west. Moreover, BLM is recommending wilderness designation of a large portion of the nearby Eagletail Mountains WSA.

The WSA lacks other enhancing wilderness characteristics and would not contribute to the diversity of the NWPS. The overall quality of the WSA's wilderness values and opportunities does not justify its recommendation for wilderness designation.

Eagletail Mountains (Map 2–3). The *Proposed Action* would designate 70,230 acres as wilderness and would return 46,835 acres to other multiple use management.

This alternative adjusts the WSA's boundaries to improve the area's manageability while retaining and protecting its highest wilderness values. The *Proposed Action* also provides a compromise between wilderness and motorized recreation uses. Many potential motorized vehicle manageability problems are resolved by the *Proposed Action's* boundaries. Vehicle way and jeep trail concentrations in the WSA's northern portions are almost completely excluded. The northern boundary would be established along the base of the Eagletail escarpment. Also, boundaries are pulled back to natural topographic barriers on the WSA's south and west sides. Some portions of the WSA considered favorable for minerals have also been excluded.

The suitable area includes 2,643 acres of state surface and mineral lands and 561 acres of state minerals. These lands are recommended for acquisition to facilitate manageability and enhance wilderness values.

East Clanton Hills (Map 2–4). All 36,560 acres are recommended nonsuitable for wilderness designation under the *Proposed Action* because of the WSA's mineral potential, less desirable wilderness qualities, and manageability problems resulting from poorly definable boundaries. Almost the entire WSA is considered to have some favorability for either metallic minerals, fluorite, uranium, or geothermal energy (Geoexplorers International, Inc., 1982). Two mines (one with a cherrystem road into the northern part of the WSA) have recently operated on the WSA's edge, and other mining plans have been received by BLM.

Wilderness values are not consistent throughout the WSA. While solitude is available throughout, primitive recreation opportunities are good only in the WSA's north half. The sparsity of vegetation and the flatness of Hyder Valley in the southern portion of the WSA contribute to the lack of outstanding primitive recreation opportunities. Boundaries on the WSA's west and south would be difficult to manage, and the lack of topographic barriers would make motorized vehicle use difficult to control. The WSA would be returned to multiple use management.

Face Mountain (Map 2-5). None of Face Mountain's 27,575 acres are recommended for wilderness under the *Proposed Action* because of the WSA's overall low wilderness values. The principal reasons for establishing this area as a WSA was its isolation, size, and the subsequent opportunities for solitude. Solitude is frequently disrupted, however, by the passing sounds of train traffic along the WSA's southern border. In addition, the WSA lacks outstanding primitive recreation opportunities, and there are no recognized special features or unique resource values. In light of the absence of enhancing wilderness characteristics or significant multiple resource benefits, the opportunity for solitude alone does not justify recommending the Face Mountain WSA for wilderness. The WSA would be returned to multiple use management.

Signal Mountain (Map 2-6). None of the WSA's 19,640 acres would be designated wilderness under the *Proposed Action*. This area's wilderness values are considered only moderate. Although all mandatory wilderness characteristics (size, naturalness, and outstanding solitude and primitive recreation opportunities) are met, none of these wilderness characteristics are considered exceptional or unique to the region. All are found to an equal or greater degree in other Lower Gila South WSAs recommended for designation. Moreover, solitude is frequently disrupted by the noise of numerous trains along the WSA's northwestern border. The WSA's special features, primarily wildlife habitat for desert tortoise and desert bighorn, also occur in more abundance in other WSAs. The WSA would be returned to multiple use management.

Woolsey Peak (Map 2-6). Under the *Proposed Action*, 61,000 acres of the Woolsey Peak WSA would be designated as wilderness and 12,930 acres would be returned to multiple use management. The *Proposed Action* adjusts the boundary to exclude a concentration of roads, mining claims, and vehicle ways along the WSA's eastern border, thus improving wilderness manageability.

All lands proposed for wilderness have outstanding wilderness characteristics. The large expanse of stark desert provides primitive recreation opportunities while the area's size and topographic relief provide outstanding solitude.

North Maricopa Mountains (Map 2-7). None of this WSA's 70,468 acres would be designated wilderness under the *Proposed Action*. All WSA acreage would be returned to multiple use management.

This WSA would be difficult to manage as wilderness due to the poor boundary configuration, which results from eight cherrystem roads and parcels of nonfederal minerals penetrating the WSA. Moreover, there are four sections (2,560 acres) of state mineral inholdings. The WSA's trails and washes are also popular with organized off-road user groups. Control of such vehicle use would be difficult with the WSA's present boundary configuration. Although the area has good wilderness values because of its size and natural character, its wilderness characteristics are not considered exceptional. Multiple use management with the continuation of existing resource uses is considered to be the best use of these public lands.

South Maricopa Mountains (Map 2-8). None of this WSA's 71,320 acres would be designated wilderness under the *Proposed Action* because of the WSA's mineral potential and lack of superior wilderness characteristics. All WSA lands would be managed for other multiple resources.

This WSA has a geologic potential for metallics (17,120 acres favorable for copper), uranium (14,240 acres), and geothermal energy (4,150 acres favorable) (Geoexplorers International, Inc., 1982).

While the WSA meets all basic wilderness criteria, its wilderness values are not superior. The area is not particularly scenic and has no interesting or unique geologic or plant features. Much of the WSA is relatively flat bajada offering little to the primitive recreationist. Moreover, similar supplemental cultural and wildlife features are found in equal abundance on adjacent lands not under wilderness study.

The National Wilderness Preservation System (NWPS) has 609,667 acres of land with similar characteristics already designated, and 1.3 million acres of similar lands administratively endorsed as wilderness. Also, BLM has recommended wilderness suitability for an area six miles from this WSA. After consideration of all multiple resource values, including those lands already within the NWPS, this area is recommended as unsuitable for wilderness.

Butterfield Stage Memorial (Map 2-7). All 9,566 acres are nonsuitable for wilderness designation under the *Proposed Action*. The WSA offers no outstanding opportunities for primitive and unconfined recreation. This WSA minimally meets the wilderness solitude criteria because its small size and topography highly restrict solitude opportunities. Moreover, the overall wilderness characteristics are not of high quality and there are no special features unique to this area alone. All lands within this WSA would be returned to multiple use management.

Table Top Mountains (Map 2-9). The *Proposed Action* would designate 34,400 acres of the Table Top Mountain WSA as wilderness and return 3,568 acres to multiple use management.

The *Proposed Action* adjusts the boundary to exclude nonfederal mineral inholdings and form boundaries based on legal subdivision lines and locatable vehicle trails. Possible conflicts with motorized vehicle use across the WSA's bajada areas are also lessened by these

adjustments. None of the WSA's wilderness characteristics are affected by the boundary adjustments. Wilderness designation would preserve Table Top Mountains' distinctive scenery, unique grassland communities, wildlife habitats, and outstanding opportunities for solitude and primitive recreation.

RESOURCE PRODUCTION (NO WILDERNESS)

The *Resource Production* (No Wilderness) alternative analyzes the extent to which the wilderness values of the WSAs would be forgone or adversely affected as a result of uses allowed under multiple use management. The probable impacts of nondesignation on other resource values present in a WSA are also described under this alternative. The purpose of the *Resource Production* alternative is to provide a baseline for the comparison of other alternatives.

Formal management direction has not been established for the Lower Gila South RMP/EIS area because no land use plans have yet been approved. The Lower Gila South RMP will provide resource management guidance once it is approved. Management will continue to be consistent with the multiple use and sustained yield concepts of FLPMA.

Under the *Resource Production* alternative none of the 12 WSAs would be designated as wilderness. WSA management would be guided by the Interim Management Policy until Congress releases these areas from wilderness review. After release all 607,552 acres would be managed under multiple use management principles with no wilderness restrictions. Subsequent management actions would be guided by laws, regulations, BLM policy, and the approved Lower Gila South RMP. The areas would be primarily managed for livestock grazing, wildlife habitat, mineral exploration and development, dispersed recreation use, and other land uses.

While most forms of commodity resource production would be allowed under the *Resource Production* alternative, environmental constraints required by law would be applied. Possible constraints include specific laws and regulations which require BLM to protect threatened and endangered plant and animal species and cultural and visual resources. BLM is also required to manage the public lands to prevent unnecessary and undue resource degradation.

Major provisions of the *Resource Production* alternative include the following proposed management actions and related impacts. Except where otherwise specified, these actions would be applicable to every WSA in the Lower Gila South RMP/EIS area.

- Open area to mineral entry and leasing (except in the New Water Mountains WSA, which is under a withdrawal application) subject to the Surface Management Regulations (43 CFR 3809).
- Allow livestock operations with maintenance of existing rangeland developments and construction of new range improvements without any wilderness constraints.
- Open area for motorized vehicle use, including ORVs.
- Manage under VRM Class II, III, or IV guidelines which allow some activities affecting the scenery.
- Allow rights-of-way and other multiple land use activities.

RESOURCE PROTECTION (ENHANCED WILDERNESS)

The *Resource Protection* alternative would balance competing demands by providing some public lands and resources for use and development, while protecting additional higher quality and manageable wilderness areas.

The *Resource Protection* alternative would designate as wilderness portions of the New Water Mountains, Little Horn Mountains, Eagletail Mountains, Face Mountain, Woolsey Peak, North Maricopa Mountains, and Table Top Mountains (totaling 324,350 acres).

These designated areas would be managed to preserve their naturalness, solitude, and primitive recreation opportunities in accordance with BLM's Wilderness Management Policy and the Wilderness Act of 1964. A wilderness management plan would be developed and implemented for each area following wilderness designation by Congress. (Major provisions of wilderness management are summarized in the Management of Designated Wilderness section in Chapter 1 of this supplement.)

All lands not designated as wilderness would be managed for multiple resource uses such as livestock grazing, mineral exploration and development, wildlife habitat, rights-of-way, and dispersed recreation.

The following is a description of the *Resource Protection* alternative by WSA.

New Water Mountains (Map 2–1). (Same as the *Proposed Action.*)

Little Horn Mountains West (Map 2–2). (Same as the *Proposed Action.*)

Little Horn Mountains (Map 2–2). Under this alternative, 49,940 acres of this WSA would be designated wilderness and 40,490 returned to multiple use management.

Designation would protect the wilderness values associated with the mountainous southern half of the WSA. The area proposed for designation as wilderness

has excellent recreation opportunities, contains the majority of the WSA's bighorn sheep habitat, and is natural in character.

This alternative adjusts WSA boundaries to provide for increased manageability and yet maintains the best variety of primitive recreation experiences. The suitable area excludes the majority of nonfederal inholdings and minimizes potential conflicts with motorized recreation. To facilitate wilderness management, 440 acres of state surface and mineral rights and 520 acres of state mineral rights would need to be acquired.

Eagletail Mountains (Map 2-3). The *Resource Protection* alternative would recommend wilderness designation for 88,660 acres and would return 28,405 acres to multiple use management. This alternative expands the *Proposed Action's* suitable boundaries in order to enhance wilderness values.

Boundaries would be expanded to incorporate all of Nottbusch Butte, the eastern and western portions of Cemetery Ridge, and extend the present western WSA boundary to an existing road. The boundary change will prevent future developments from being visible in the wilderness and will add additional desert plain to the area. In addition, larger portions of the desert bajada located north of the Eagletail Mountains (including Courthouse Rock) will be added by the boundary expansion.

East Clanton Hills (Map 2-4). (Same as the *Proposed Action.*)

Face Mountain (Map 2-5). The *Resource Protection* alternative would designate 26,390 acres of this WSA as wilderness and return 1,185 acres to multiple use management. The WSA's northwest boundary has been pulled back to make topographic features the boundary. The southern boundary was adjusted to permit expansion of an existing utility and transportation corridor. The WSA has excellent solitude opportunities, is natural in character, and is manageable as wilderness.

Signal Mountain (Map 2-6). (Same as the *Proposed Action.*)

Woolsey Peak (Map 2-6). (Same as the *Proposed Action.*)

North Maricopa Mountains (Map 2-7). This alternative would designate 39,840 acres as wilderness and would return 30,628 acres to multiple use management. Natural values, opportunities for solitude and primitive recreation, and supplemental values associated with the WSA's central mountainous area would be inside the suitable area. Most of the WSA's bajada lands and outwash plains would be excluded.

The *Resource Protection* wilderness recommendation is primarily an adjustment of WSA boundaries to exclude nonfederal mineral inholdings, eliminate potential ORV management problems in the desert bajada areas. The boundaries enclose the good recreation and wildlife values associated with the central North Maricopa Mountains. Adjustment of the WSA boundary will also eliminate the conflict between a proposed utility corridor and the existing WSA boundary.

South Maricopa Mountains (Map 2-8). (Same as the *Proposed Action.*)

Butterfield Stage Memorial (Map 2-7). (Same as the *Proposed Action.*)

Table Top Mountains (Map 2-9). (Same as the *Proposed Action.*)

ENVIRONMENTAL PROTECTION (ALL WILDERNESS) (SEE MAPS 2-1 THROUGH 2-9)

The *Environmental Protection* alternative would designate as wilderness all 12 WSAs, totaling 607,557 acres. It would preserve wilderness values in all WSAs and would restrict other resource uses that might conflict with wilderness management.

Resource use and development would be permitted to the extent compatible with wilderness protection. The goal of this alternative is to change present management direction so that the identified issues are resolved in a manner that places highest priority on the preservation and improvement of wilderness values.

Alternatives Eliminated From Detailed Study

Several other wilderness alternatives were eliminated from detailed study since they neither met the criteria of improving manageability nor did they eliminate potential resource conflicts.

Little Horn Mountains West. Consideration of partial alternatives greatly reduced wilderness characteristics and made the WSA more unmanageable as wilderness.

Eagletail Mountains. One alternative recommended 32,000 acres as wilderness. This alternative retained the mountainous core of the existing WSA but eliminated 90 percent of the desert lowlands and bajadas. This partial alternative was dropped from consideration because its boundaries on the west and south were difficult to define. Moreover, the great reduction in the WSA's size, coupled with the eliminaton of large expanses of desert plain, greatly reduced solitude and primitive recreation opportunities and lessened the area's manageability as wilderness.

East Clanton Hills. With the exception of the extreme northwest and northeast corners, the entire WSA is considered to have potential favorability for metallic minerals, fluorite, uranium, or geothermal energy.

Numerous mining claims are also present. Any boundary modification to eliminate potential conflicts with mineral resources would lower the quantity and quality of existing wilderness characteristics and make the area more difficult to manage.

Signal Mountain. A boundary change was considered along the WSA's north side to eliminate nonfederal mineral inholdings and mining claims. Exclusion of the nonfederal inholdings, however, left an odd-shaped area which would be difficult to manage. A partial wilderness recommendation for this WSA would not improve wilderness manageability.

Woolsey Peak. An alternative to recommend about 17,500 acres around Woolsey Peak excluded all areas identified by the GEM Report as favorable for metallic minerals (Geoexplorers International, Inc., 1982) and all vehicle ways, while retaining the lands containing the WSA's highest scenic values. This alternative excluded that half of the WSA lying west of Woolsey Peak and the eastern third of the WSA. This alternative was dropped from consideration because of a lack of easily delineated boundaries and the reduction in the quality of the WSA's wilderness characteristics.

South Maricopa Mountains. The exclusion of areas favorable for metallics, uranium, and geothermal values would fragment the WSA to the point of rendering the area nonwilderness in character. In addition, the boundaries formed through exclusions could not be defined in such a manner as to make the remaining area manageable..)

Butterfield Stage Memorial. Any alternative requiring reduction of the WSA's size would render the unit unmanageable as wilderness due to the loss of wilderness characteristics, primarily solitude.

Wilderness Manageability

Based on the wilderness values of each WSA described in Chapter 3 and the impacts on these wilderness values analyzed in Chapter 4, the manageability of each WSA has been determined as follows.

New Water Mountains. The New Water Mountains WSA would be manageable as wilderness under the *Proposed Action* and *Resource Protection* alternatives. Wilderness management under the *Environmental Protection* alternative might be difficult due to possible conflicts with mineral development. Some minor conflicts with ORV use might also occur.

Little Horn Mountains West. The Little Horn Mountains West WSA is not considered manageable as wilderness under any alternative because of potential mineral impacts to wilderness values and the presence of state and private inholdings.

Little Horn Mountains. This area is considered to be manageable as wilderness under all alternatives, subject to possible valid existing rights of mining claimants and acquisition of state-owned surface and mineral inholdings. Possible mineral conflicts occur south of Royal Arch. If mining claims found here were to have valid discoveries, effective wilderness management in the WSA's southwest area would be questionable. Control of ORV use along some boundaries in desert plain areas could also be a problem.

Eagletail Mountains. This WSA would be manageable as wilderness under the *Proposed Action* and *Resource Protection* alternatives, subject to acquisition of nonfederal inholdings. Portions of the WSA could be difficult to manage under the *Environmental Protection* alternative because of difficulties with controlling vehicle use, nonfederal surface and mineral inholdings, and poorly definable boundaries.

East Clanton Hills. This WSA is not considered manageable as wilderness under all alternatives due to potential development of mineral and energy resources and difficulty in controlling vehicle use, and poorly definable boundaries.

Face Mountain. The Face Mountain WSA would be manageable as wilderness under all alternatives.

Signal Mountain. This WSA is considered manageable as wilderness under all alternatives, subject to acquisition of 1,280 acres of nonfederal mineral rights. A manageability concern involves the possible development of mining claims along the WSA's northern border if the claims are found to have valid discoveries.

Woolsey Peak. The Woolsey Peak WSA is considered manageable as wilderness under all alternatives. Intensive management would be required, however, on the WSA's eastern side under the *Environmental Protection* alternative in order to manage vehicle use. There are concentrations of cherrystem roads, vehicle ways, and old prospects in this area. Also, potential mineral development in the area described above poses a possible future management concern.

North Maricopa Mountains. The North Maricopa Mountains WSA is considered manageable as wilderness only under the *Resource Protection* alternative. Numerous placer and lode claims, 2,560 acres of nonfederal minerals and 160 acres of private surface inholdings, and the difficulty of controlling vehicle use would make effective wilderness management under the *Environmental Protection* alternative questionable. A poorly configured boundary with eight cherrystem roads increases wilderness manageability problems.

South Maricopa Mountains. This WSA is considered manageable as wilderness, subject to possible conflicts with mining claims in areas thought to have mineral resources. If these claims contain economic reserves and

are developed, effective wilderness management would be questionable.

Butterfield Stage Memorial. This WSA is considered manageable as wilderness under all alternatives. A minor manageability problem would occur because of ORV use on trails within the WSA.

Table Top Mountains. The entire WSA is considered to be manageable as wilderness under all alternatives. The poorly definable boundaries and nonfederal mineral inholdings along the northwestern and western boundaries create management problems in this area. Some potential conflicts exist with mining claims, but no valid discoveries are presently known to exist.

Summary of Impacts

The analysis of the environmental consequences of the *Proposed Action* and alternatives reveals that none of the alternatives would measurably impact geology, topography, soils, water resources, protected plants and animals, visual resources, air quality, climate, wild burros, vegetation, social conditions, or fire management. Impacts would occur to wilderness, minerals and energy, wildlife habitat, land uses, rangeland management, cultural resources, recreation, and economic conditions. Table S–3 summarizes impacts by alternative. For a more detailed analysis of impacts, see Chapter 4.

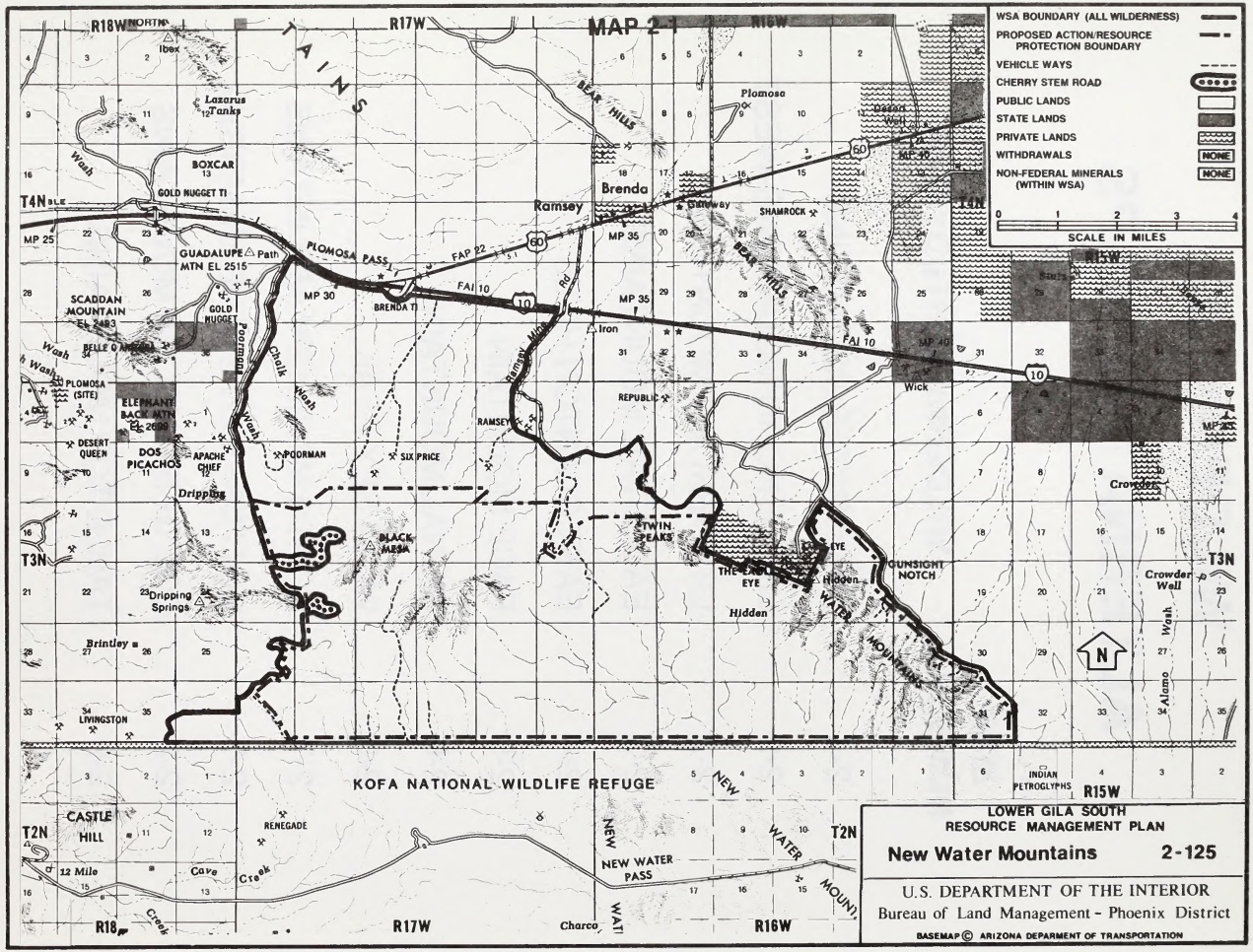
TABLE S-3
IMPACT SUMMARY TABLE BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Impacted Resources	Proposed Action	Resource Production*	Resource Protection	Environmental Protection**
Wilderness				
No. WSAs Suitable	4	0	7	12
No. WSAs Nonsuitable	8	12	5	0
Suitable WSA Acres	189,750	0	324,350	607,557
Nonsuitable WSA Acres	417,807	607,557	283,207	0
Minerals				
Acres Closed to Mineral Entry and Leasing	189,750	0	324,350	607,557
Mining Claims Affected	199	0	666	3,152
Wildlife				
Acres of Bighorn Sheep Habitat Protected	147,090	0	241,170	373,850
Acres of Desert Tortoise Habitat Protected	10,520	0	17,570	46,770
Lands				
Non-Federal Inholdings (Acres)	2,643	0	3,083	6,396
Split Mineral Estate Acres to be Acquired	561	0	3,401	14,081
No. of Utility Corridors Impacted	0	0	1	5
Rangeland Management				
No. of Allotments Overlapped by Wilderness	11	0	19	33
Cultural Resources				
Sensitive Acres Protected	103,818	0	145,513	218,560
Recreation				
Change in Visitor Use	+4,650	0	+5,900	+5,200
Acres Closed to ORVs	189,750	0	324,350	607,557
Miles of Access	99.55	0	176.45	373.85
Economic Conditions				
Increases in Annual Recreation Expenditures	$17,763	0	$22,538	$19,864
Potential Oil & Gas Lease Revenue Forgone	$189,750	0	$324,350	$607,557
Potential State Oil & Gas Revenue Forgone	$94,875	0	$162,175	$303,779

* Resource Production (No Wilderness)
** Environmental Protection (All Wilderness)
SOURCE: Phoenix District files

WILDERNESS ALTERNATIVE MAPS

MAP NUMBER	WILDERNESS STUDY AREA
2-1	NEW WATER MOUNTAINS
2-2	LITTLE HORN MOUNTAINS-WEST
2-2	LITTLE HORN MOUNTAINS
2-3	EAGLETAIL MOUNTAINS
2-4	EAST CLANTON HILLS
2-5	FACE MOUNTAIN
2-6	SIGNAL MOUNTAIN
2-6	WOOLSEY PEAK
2-7	NORTH MARICOPA MOUNTAINS
2-7	BUTTERFIELD STAGE MEMORIAL
2-8	SOUTH MARICOPA MOUNTAINS
2-9	TABLE TOP MOUNTAINS



LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

New Water Mountains 2-125

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Bureau of Land Management - Phoenix District

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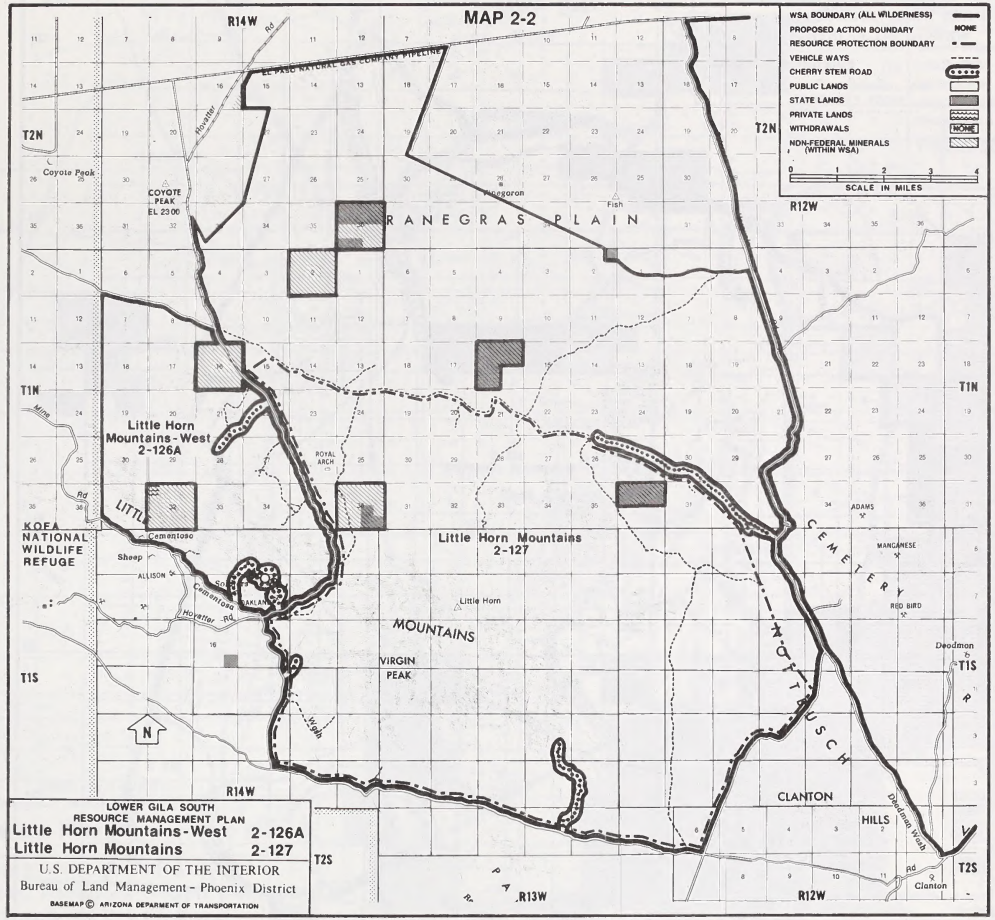
MAP 2-2
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION BOUNDARY
RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS
NON-FEDERAL MINERALS (WITHIN WSA)
NONE
SCALE IN MILES
EL PASO NATURAL GAS COMPANY PIPELINE
RANEGRAS PLAIN
Little Horn Mountains - West 2-126A
Little Horn Mountains 2-127
MOUNTAINS
VIRGIN PEAK
Little Horn
CEMETERY RIDGE
CLANTON HILLS
KOFA NATIONAL WILDLIFE REFUGE
COYOTE PEAK EL 2306
Coyote Peak
Cementosa
ALLISON
OAKLAND
ROYAL ARCH
ADAMS
MANGANESE
RED BIRD
Deadman
Clanton
Hoyorita Rd
Cementosa Rd
Deadman Wash
Wash
Mine
Sheep
Fish
Tinajas
R14W
R13W
R12W
T2N
T1N
T1S
T2S
N
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Little Horn Mountains - West 2-126A
Little Horn Mountains 2-127
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Bureau of Land Management - Phoenix District
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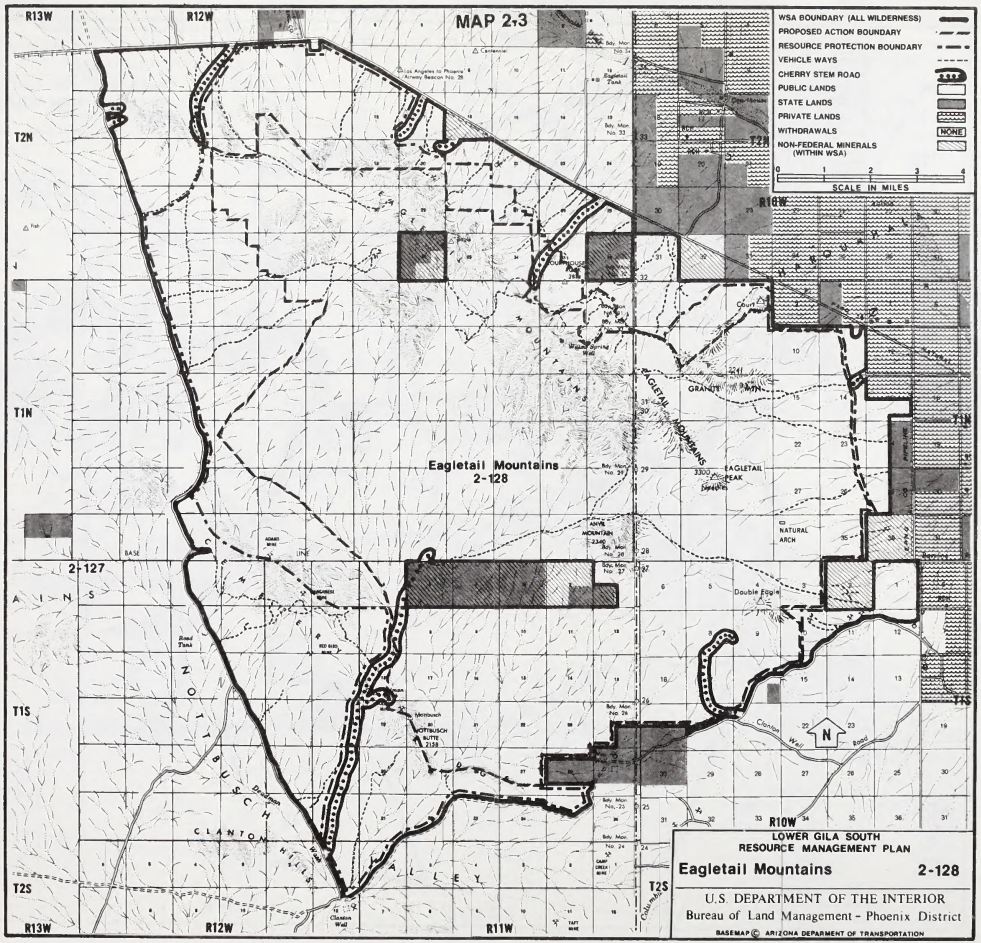
MAP 2-3
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION BOUNDARY
RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS
NONE
NON-FEDERAL MINERALS (WITHIN WSA)
SCALE IN MILES
Eagletail Mountains
2-128
2-127
R13W
R12W
R11W
R10W
T2N
T1N
T1S
T2S
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Eagletail Mountains 2-128
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Bureau of Land Management - Phoenix District
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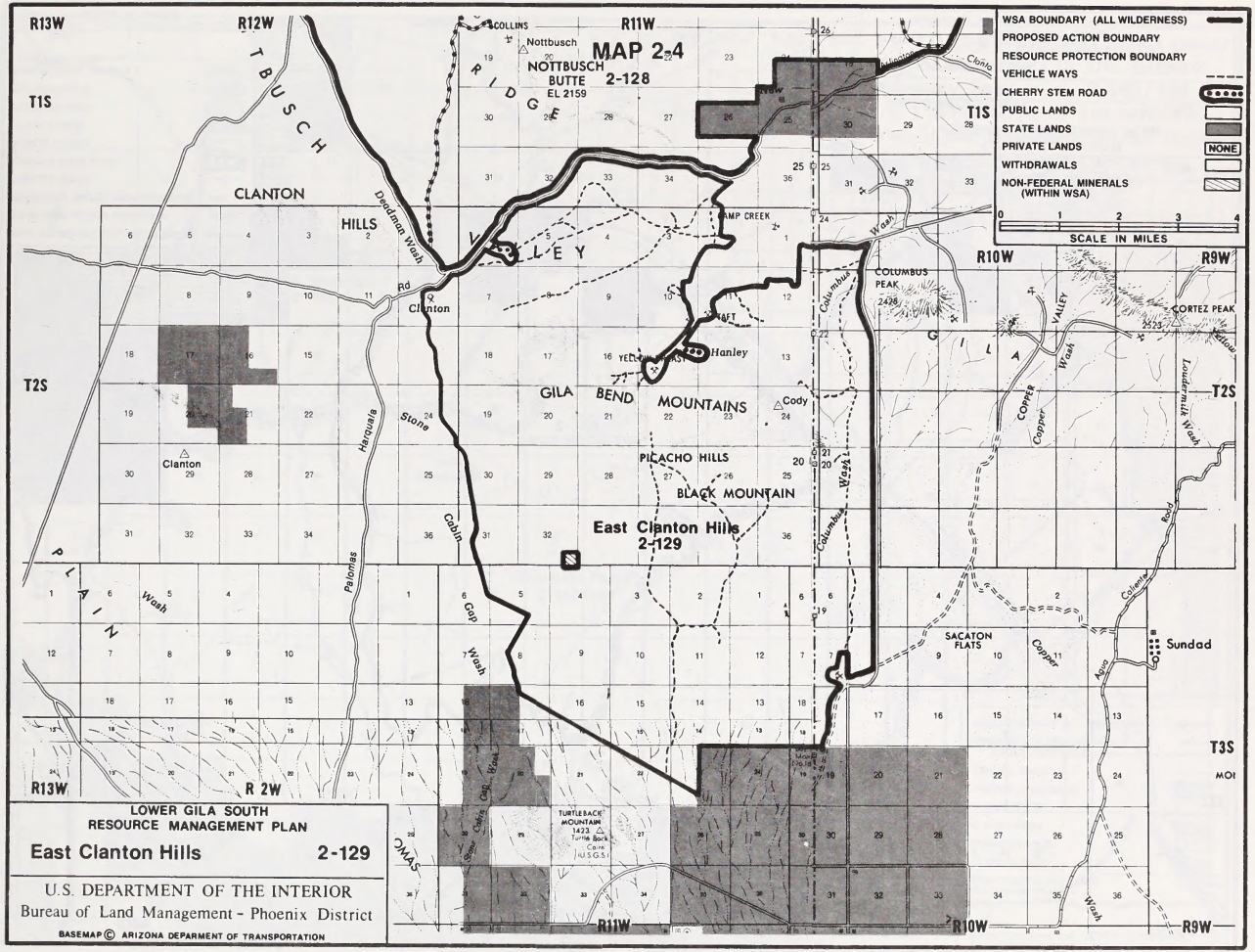
MAP 2-4
NOTTBUSCH BUTTE 2-128
EL 2159
East Clanton Hills 2-129
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION BOUNDARY
RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
NONE
WITHDRAWALS
NON-FEDERAL MINERALS (WITHIN WSA)
SCALE IN MILES
0 1 2 3 4
R13W
R12W
R11W
R10W
R9W
R 2W
T1S
T2S
T3S
CLANTON HILLS
RIDGE
VALLEY
PLAIN
GILA BEND MOUNTAINS
PICACHO HILLS
BLACK MOUNTAIN
SACATON FLATS
COLUMBUS PEAK
CORTEZ PEAK
GILA VALLEY
Nottbusch
Clanton
Hanley
Cody
Sundad
Deadman Wash
Harquala
Stone
Cabin
Palomas
Gap Wash
Copper Wash
Columbus Wash
Lousenmilk Wash
Agua
Coleman Road
Camp Creek
Wash
TURTLEBACK MOUNTAIN
1423
Turtle Back Caves (U.S.G.S.)
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
East Clanton Hills 2-129
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Bureau of Land Management - Phoenix District
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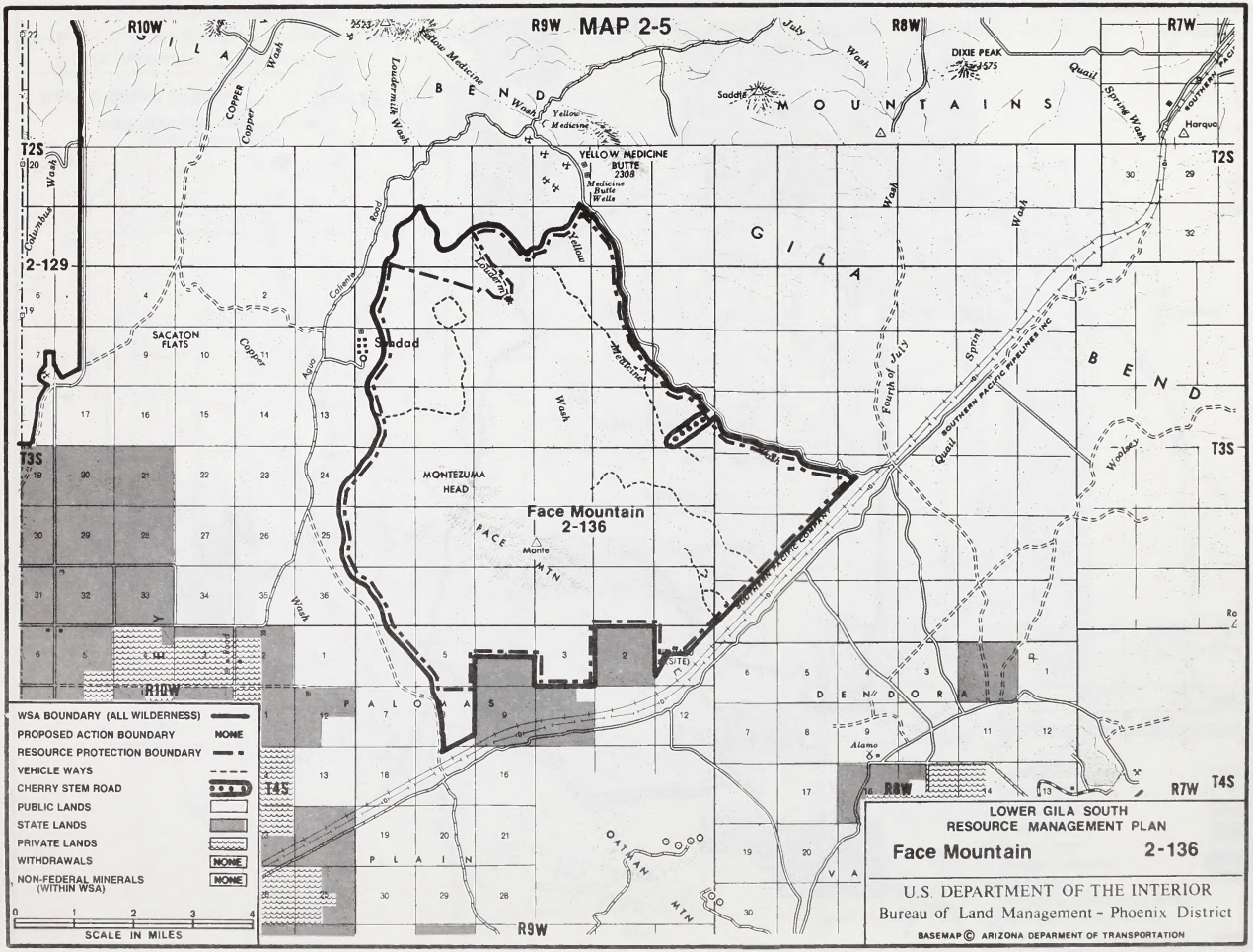
MAP 2-5
R10W
R9W
R8W
R7W
T2S
T3S
T4S
GILA BEND MOUNTAINS
GILA BEND PLAIN
GILA BEND VALLEY
PALOMAS
DENDORA
SACATON FLATS
YELLOW MEDICINE BUTTE 2308
Saddle
DIXIE PEAK 4575
Harquva
Sentinel
Stanfield
MONTEZUMA HEAD
Face Mountain
2-136
PACE MTN
Monte
OATMAN MTN
Alamo
2-129
Columbus Wash
Copper Wash
Laudermilk Wash
Yellow Medicine Wash
July Wash
Quail Spring Wash
Coleman Road
Lauderm
Yellow Medicine Wash
Fourth of July Wash
Sprint Wash
Quail Wash
Woolsey Wash
Pace Wash
SOUTHERN PACIFIC TRANSPORTATION CO.
SOUTHERN PACIFIC RAILINES INC
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION BOUNDARY NONE
RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS NONE
NON-FEDERAL MINERALS (WITHIN WSA) NONE
0 1 2 3 4
SCALE IN MILES
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Face Mountain 2-136
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Bureau of Land Management - Phoenix District
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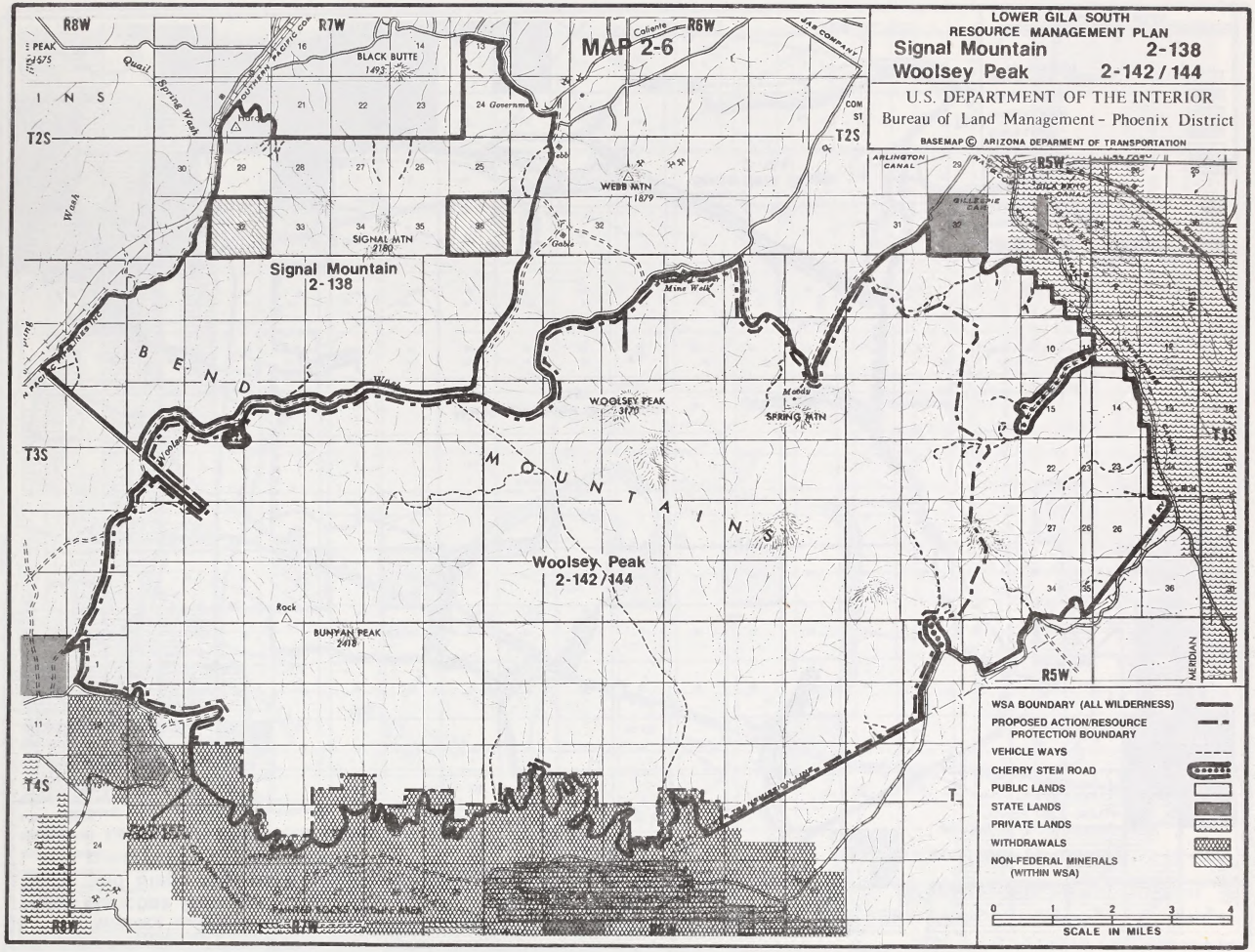
MAP 2-6
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Signal Mountain 2-138
Woolsey Peak 2-142 / 144
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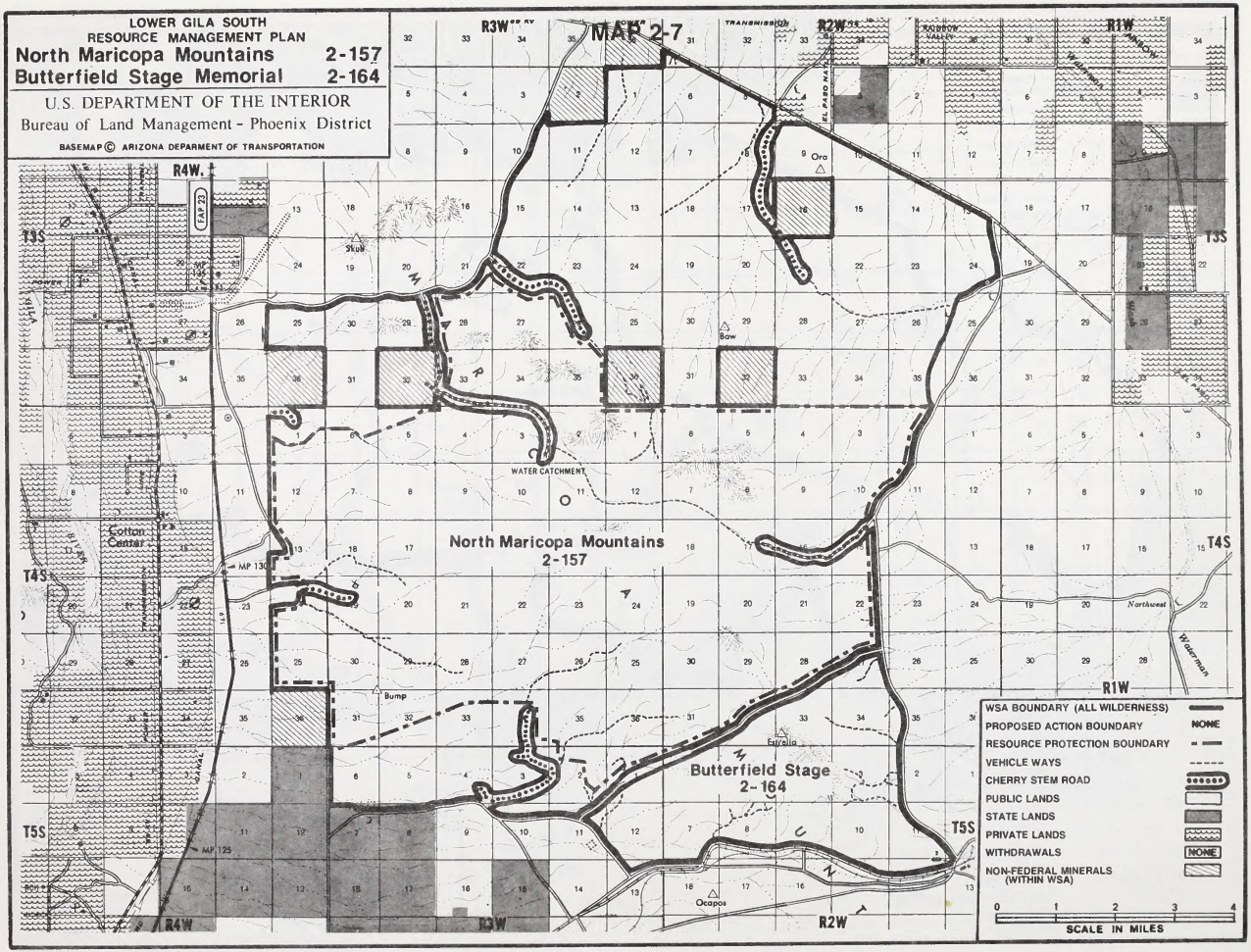
Signal Mountain
2-138
Woolsey Peak
2-142 / 144
MOUNTAINS
BEND
R8W
R7W
R6W
R5W
T2S
T3S
T4S
BLACK BUTTE
1493
WEBB MTN
1879
SIGNAL MTN
2180
WOOLSEY PEAK
3179
SPRING MTN
BUNYAN PEAK
2418
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION/RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS
NON-FEDERAL MINERALS (WITHIN WSA)
0 1 2 3 4
SCALE IN MILES


LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
North Maricopa Mountains 2-157
Butterfield Stage Memorial 2-164
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Bureau of Land Management - Phoenix District
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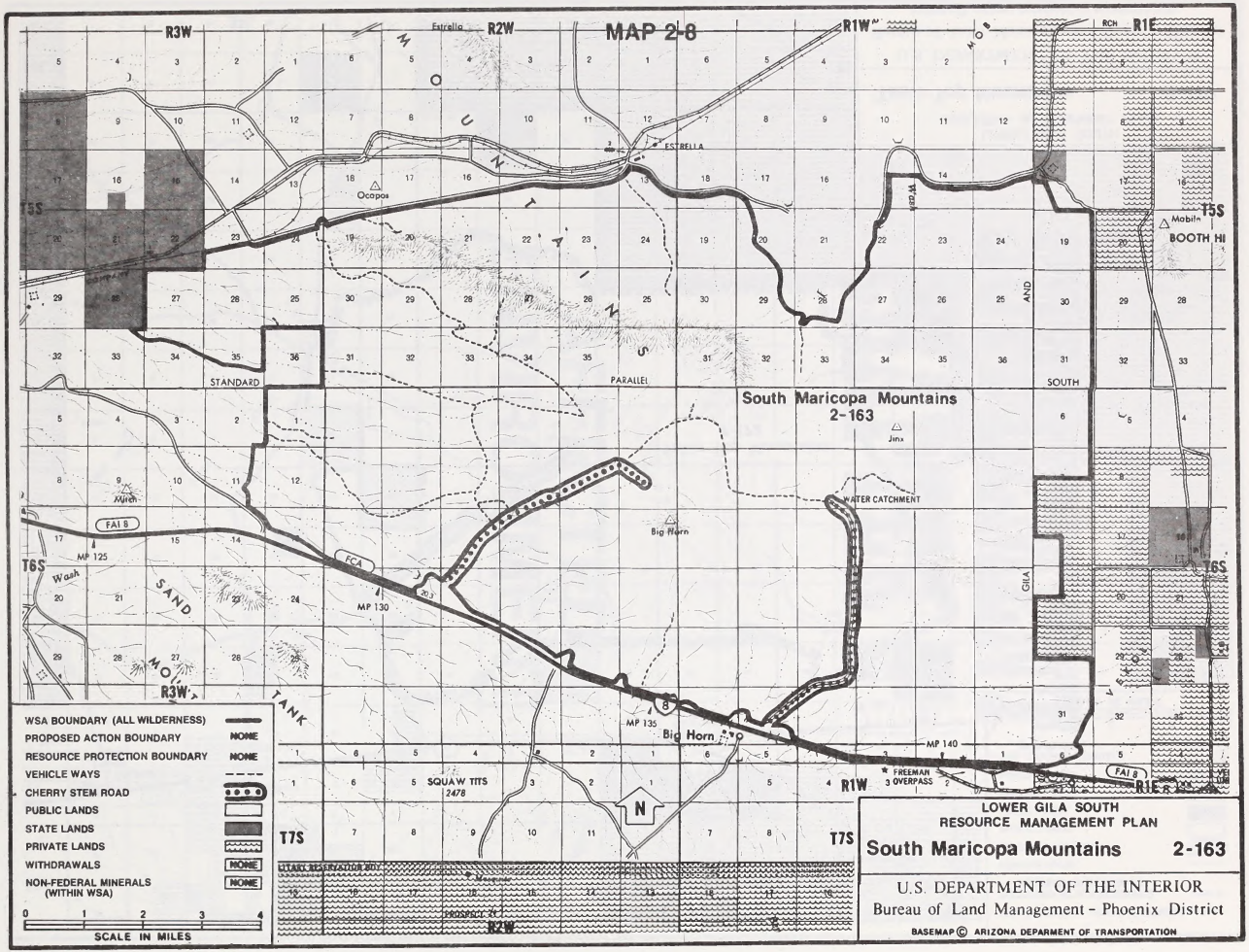
MAP 2-7
North Maricopa Mountains
2-157
Butterfield Stage
2-164
WATER CATCHMENT
Cotton Center
Bump
Eyrella
Ocapos
Ora
Baw
Skuk
Northwest
Waterman
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION BOUNDARY
NONE
RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS
NONE
NON-FEDERAL MINERALS
(WITHIN WSA)
0 1 2 3 4
SCALE IN MILES


MAP 2-8
South Maricopa Mountains
2-163
R3W
R2W
R1W
R1E
T5S
T6S
T7S
MOUNTAINS
ESTRELLA
Ocapos
STANDARD
PARALLEL
SOUTH
Jinx
Mirch
Big Horn
WATER CATCHMENT
FAI 8
MP 125
MP 130
MP 135
MP 140
FCA
SAND
Wash
TANK
SQUAW TITS
2478
FREEMAN
OVERPASS
GILA
Mobile
BOOTH HI
N
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION BOUNDARY NONE
RESOURCE PROTECTION BOUNDARY NONE
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS NONE
NON-FEDERAL MINERALS (WITHIN WSA) NONE
0 1 2 3 4
SCALE IN MILES
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
South Maricopa Mountains 2-163
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Bureau of Land Management - Phoenix District
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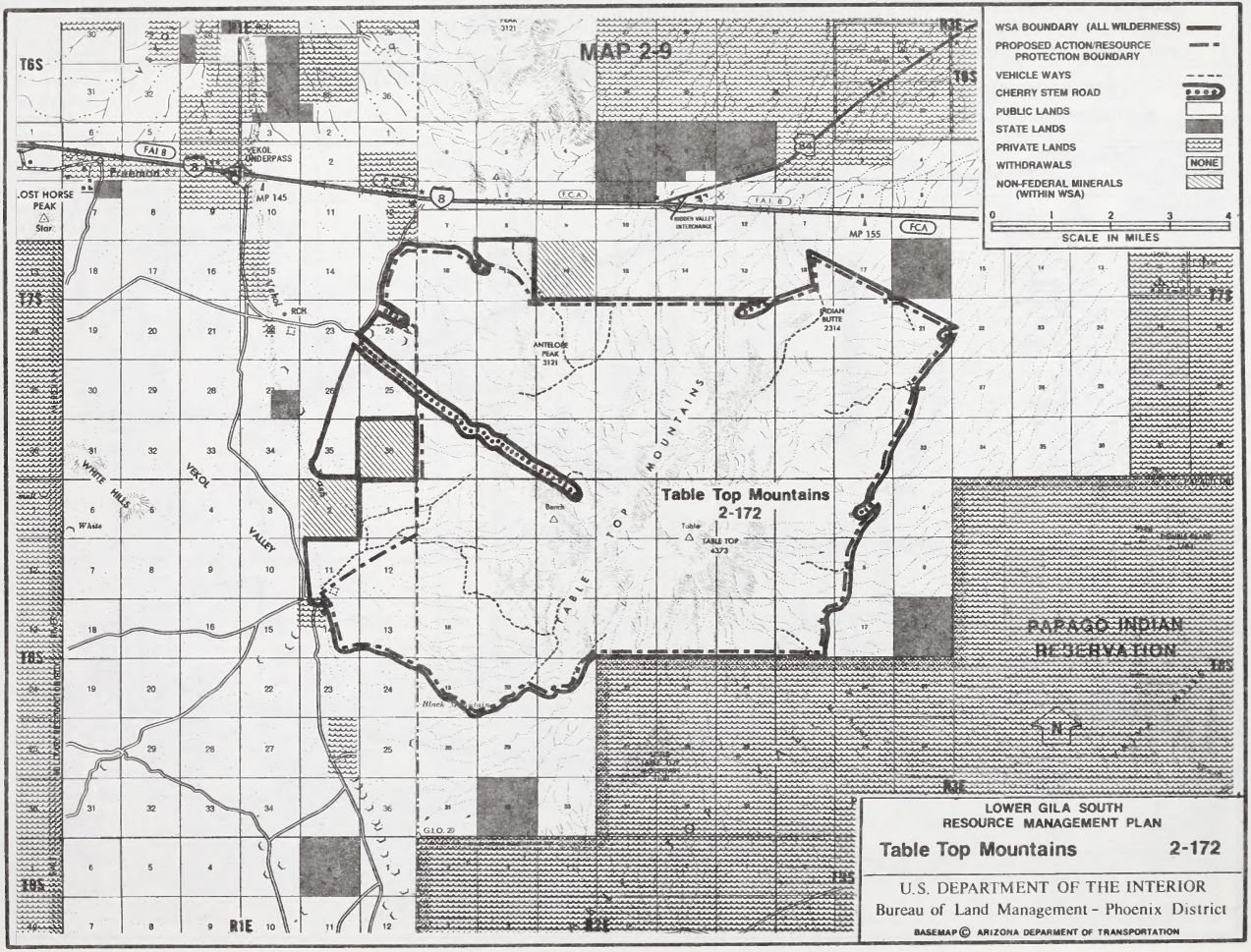
MAP 2-9
WSA BOUNDARY (ALL WILDERNESS)
PROPOSED ACTION/RESOURCE PROTECTION BOUNDARY
VEHICLE WAYS
CHERRY STEM ROAD
PUBLIC LANDS
STATE LANDS
PRIVATE LANDS
WITHDRAWALS
NONE
NON-FEDERAL MINERALS (WITHIN WSA)
0 1 2 3 4
SCALE IN MILES
Table Top Mountains
2-172
TABLE TOP MOUNTAINS
PAPAGO INDIAN RESERVATION
VEKOL UNDERPASS
MP 145
MP 155
HIDDEN VALLEY INTERCHANGE
LOST HORSE PEAK
ANTELOPE PEAK 3121
INDIAN BUTTE 2314
TABLE TOP 4373
WHITE HILLS
VEKOL VALLEY
T6S
T7S
T8S
R1E
R2E
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Table Top Mountains 2-172
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Bureau of Land Management - Phoenix District
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SUPPLEMENT CHAPTER 3

AFFECTED ENVIRONMENT

WILDERNESS SUPPLEMENT—CHAPTER 3

AFFECTED ENVIRONMENT

Introduction

Chapter 3 briefly describes, by wilderness study area (WSA), resources that might be impacted by the alternatives. Descriptions are only as detailed as needed for the reader to understand the effects of implementing the alternatives. Where impacts to certain resources would be slight or nonexistent, descriptions are brief or are omitted. More detailed descriptions of the resources in the RMP/EIS area and of the regional socioeconomic conditions are in the Lower Gila South Management Situation Analyses (BLM, 1983), which is available at the Phoenix District Office, Phoenix, Arizona.

Elements Common to All Twelve WSAs

Air Quality. Air quality over the WSAs is generally good and the ambient air quality has been given a Class II rating by the State of Arizona. Class II standards allow for moderate deterioration of air quality associated with moderate, well-controlled industrial and population growth. Designating these WSAs as wilderness would not change the air quality standards from Class II unless the State of Arizona reclassifies them.

Military Training Overflight. The U.S. Air Force, Marine Corps, and various National Guard units conduct occasional high-speed and low-level training flights over the WSAs in the RMP/EIS area. Military aircraft fly as low as 100 feet in these areas. Flight above a particular WSA can vary greatly because military training routes and mission requirements change frequently. Noise complaints and avoidance of general aviation use areas has relegated low-level and high-speed training flights to the remote and sparsely inhabited areas where the WSAs are located.

Water Resources. The WSAs in the Lower Gila South RMP/EIS area contain no perennial or intermittent streams. Springs, wells, reservoirs, and catchments constitute the available water supply for recreationists, wildlife, and livestock. A number of WSAs have no dependable water sources, and water is only seasonally available.

Geologic and climatic factors largely determine the amount and quality of available water. Other factors that influence water source conditions include soils and vegetation. Where springs and wells occur, yields are generally less than five gallons per minute.

Social Elements. The Lower Gila South RMP/EIS area is in portions of six census county divisions (CCDs) within Maricopa, Yuma, La Paz, Pima, and Pinal Counties. Population data indicate that the economic study area (ESA) had over two million residents in 1980, and communities near the WSAs had 18,710 residents. Contacts were made with residents of the RMP/EIS area to determine how "people in the area" felt about the specific WSAs. Most of the comments from residents were general statements questioning the reasons for wilderness. Some contacts revealed even though there was no evidence of any support for wilderness recommendations, there was no indication that any strong opposition existed, except in a general sense of resenting what was perceived as "government restrictions." (See the Social Attitudes section of the Lower Gila South RMP/EIS for more detailed information.)

Economic Conditions. In 1982, 995,000 persons were employed in the ESA (Maricopa, Pima, and Yuma Counties). The ESA represents 83 percent of Arizona's total employment of 1.20 million. Employment in the ESA is heavily dependent on the economies of Phoenix and Tucson in Maricopa and Pima Counties, respectively. Employment in Maricopa and Pima Counties represents 96 percent of the total employment in the ESA.

In 1982, earnings in the ESA amounted to 16.8 billion, representing 84 percent of the state's total employment earnings of $19.9 billion. Earnings in Maricopa and Pima Counties represent 97 percent of the total 1982 earnings in the ESA.

Tourism and travel expenditures in the ESA amounted to $2.47 billion in 1980 (Valley National Bank, 1983) representing 68 percent of the total spent statewide. A BLM study showed that wilderness recreationists in Arizona spend an average of $3.82 per 12-hour wilderness visitor day, and the average trip length to visit Arizona wilderness was found to be 2.5 days. Thus recreationists spend an average of $18.86 per trip to visit Arizona wilderness (BLM, 1983a). (See the Economic Conditions section of the Lower Gila South RMP/EIS for more detailed information.

New Water Mountains (AZ-020-125)

WILDERNESS VALUES

Location and Boundaries. This WSA is located in La Paz County near Quartzsite, Arizona. The New Water Mountains WSA's boundaries are shown on Map 2-1 located at the end of Chapter 2 of this supplement.

Size. The WSA contains 40,375 acres of public land.

Naturalness. The WSA is predominantly natural with human activity largely unnoticeable. A large portion of the WSA is comprised of the New Water Mountains, a colorful east to west running string of craggy spires and large rock outcroppings. Steep slick-rock canyons with deep sandy washes dissect the mountain slopes. The western part of the WSA includes a small segment of the Plomosa Mountains. Black Mesa, a large volcanic butte rising 1,200 feet above the Ranegras Plain, dominates the area.

Vegetation is sparse and consists primarily of a creosotebush-bursage association that is interspersed with paloverde and ironwood along the washes. Little vegetation grows near the mountains.

The WSA has 20.75 miles of vehicle ways, two Arizona Game and Fish Department water guzzlers, 15 mine shafts, several mining exploration scrapes, and one mile of fenceline. Most signs of human activity are in the WSA's northern half. Since Interstate 10 was built, access into the area is restricted to only a few locations. In all cases the vehicle ways that were constructed for mineral exploration have been abandoned and receive little or no use. Neither individually nor cumulatively are these imprints apparent nor do they degrade the WSA's naturalness.

Solitude. The New Water Mountains WSA offers visitors outstanding opportunities for solitude. The size and topography of the area are such that it could accommodate numerous users before the opportunities for solitude would be compromised.

The best opportunities for solitude are found in the canyons, ravines, valleys, hills, and washes along the New Water Mountains' ridgeline and Black Mesa in the WSA's southern portion. The more open terrain, relative lack of topographic relief, and sparseness of plant cover along the WSA's northwest side limit solitude opportunities in that area.

Primitive Recreation. Outstanding opportunities for many types of primitive recreation are found in the

Desert Foothills—New Water Mountain WSA

WSA. The New Water Mountains WSA offers visitors extended backpacking trips as well as an ideal place for day hikes. The unit is bounded on the south by the U.S. Fish and Wildlife Service's Kofa National Wildlife Refuge. Almost 570,600 acres of the refuge have been administratively endorsed for inclusion in the National Wilderness Preservation System (NWPS).

The New Water Mountains WSA is a highly scenic area. The WSA offers striking views of steep canyons and prominent ridges in the rugged Kofa Mountains. Opportunities to see, photograph, and hunt bighorn sheep are excellent. Rockhound opportunities are equally outstanding.

Special Features. The WSA has wildlife and cultural resources which contribute to its wilderness values. Wildlife values include crucial desert bighorn sheep and desert tortoise habitat.

MINERALS AND ENERGY

As of September 1984, there were 149 mining claims within and adjacent to this WSA (Table S-4). About 38,375 acres of this WSA are under a U.S. Fish and Wildlife Service withdrawal application to expand the Kofa National Wildlife Refuge. No further staking of

TABLE S-4
WSA MINERAL STATUS
Bureau of Land Management, Phoenix District, Arizona

WSAs	Acreage	Number of Claims[1]	Potential Oil & Gas Lease Acres	Mineral Potential[2]	Mineral Development Potential[3]
New Water Mountains[4]	40,375	149	40,375	Medium	High
Little Horn Mountains West	12,660	844	12,660	Medium	Medium
Little Horn Mountains	90,430	314	90,430	Medium	Medium
Eagletail Mountains	117,065	36	117,065	High	Medium
East Clanton Hills	36,560	198	36,560	Low	Low
Face Mountain	27,575	32	27,575	Low	Low
Signal Mountain	19,640	243	19,640	High	Medium
Woolsey Peak	73,930	244	73,930	Medium	Medium
North Maricopa Mountains	70,468	424	70,468	Low	Medium
South Maricopa Mountains	71,320	431	71,320	Low	Low
Butterfield Stage Memorial	9,566	88	9,566	Low	Low
Table Top Mountains	37,968	149	37,968	High	Medium
TOTALS	607,557	3,152	607,557		

[1] Acreage of claims may vary from 20.66 acres to 160 acres per claim as of October 1984.

[2] Mineral potential ratings are based on present technologies.
High Potential. The geological processes that have occurred and the structures present are such that exploration and development will have a 60 to 100 percent chance of being economically viable.
Medium Potential. Only a 40 to 60 percent chance of finding economically viable mineral resources.
Low Potential. Less than 40 percent chance of finding viable mineral resources.

[3] Mineral development potential includes such factors as ease of access, transportation facilities, degree of difficulty of extraction, processes of beneficiation, total cost of preparing a saleable product, and other related expenses.
High Development Potential. Significant past and present production, high number of claims claims or degree of mineral interest, amount of exploration and prospecting; all showing a 60 to 100 percent chance of development of a viable mining operation.
Medium Development Potential. A 40 to 60 percent chance of developing a viable mineral operation.
Low Development Potential. Less than a 40 percent chance of developing a viable mineral operation.

[4] A total of 38,375 acres are closed to mining and leasing laws by withdrawal order.

SOURCE: Geoexplorers International, Inc., 1982; Arizona Geological Society Digest, 1981; Bureau of Geology and Mineral Technology Maps, 1967, 1978, 1983

mining claims or oil and gas leasing is allowed in this withdrawn area.

The mineral potential of the New Water Mountains WSA is rated medium (Table S-4). The Laramide rhyolitic volcanism has produced many areas of gold and silver mineralization. Silver has been mined in rhyolitic intrusions since the mid-18th Century. Lead, copper, zinc, manganese, and molybdenum are also present in many of the mineralized zones. Small deposits of sheelite have been reported in the paleozoic limestone formations present in the New Water Mountains. The potential for development of these minerals is rated as high (Table S-4). There is a potential for perlite in the WSA. Outcrops of marble have been noted but not mined.

There is a low potential for uranium in the basaltic flows throughout the WSA, and the 1978 Geothermal Energy Resources Map of Arizona indicates the eastern edge of the WSA lies within a region likely to contain geothermal resources (Bureau of Geology and Mineral Technology, 1967, 1978, 1983). Map 3-1, located at the end of this chapter, shows the areas in this WSA that are likely to contain mineral and geothermal resources.

WILDLIFE

The New Water Mountains WSA is composed largely of paloverde-mixed cacti habitat. It contains 34,320 acres of crucial bighorn sheep habitat, which includes the New Water and Dripping Springs lambing areas. The WSA also contains 6,860 acres of crucial desert tortoise habitat (Table S-5). This WSA has the highest bighorn density of the 12 WSAs studied. In addition, more than 80 species of wildlife use the WSA's creosotebush-bursage habitats, and more than 110 species use the WSA's paloverde-mixed cacti habitats over the course of the year (Phoenix District files). Some WSA wildlife values include habitat for: golden eagles, prairie falcons, Gila monsters, mule deer, kit fox, Gambel's quail, and mourning and white-winged doves. Map 3-10, located at the end of this chapter, shows the WSA's crucial desert bighorn sheep and desert tortoise habitats.

LAND USES

There are no areas of split estate and no private or state inholdings in this WSA. No rights-of-way are

TABLE S-5
ACRES OF CRUCIAL DESERT BIGHORN SHEEP AND DESERT TORTOISE HABITAT BY WSA
Bureau of Land Management, Phoenix District, Arizona

WSAs	Crucial Desert Bighorn Sheep Habitat*	Crucial Desert Tortoise Habitat**
New Water Mountains	34,320	6,860
Little Horn Mountains West	12,660	0
Little Horn Mountains	59,680	0
Eagletail Mountains	70,200	0
East Clanton Hills	18,280	5,480
Face Mountain	0	0
Signal Mountain	7,860	980
Woolsey Peak	59,680	0
North Maricopa Mountains	39,280	7,050
South Maricopa Mountains	42,800	17,830
Butterfield Stage Memorial	6,310	2,870
Table Top Mountains	22,780	5,700
TOTAL	373,850	46,770

* Crucial desert bighorn sheep habitat: habitat necessary to maintain current bighorn populations. Population density varies.

** Crucial desert tortoise habitat: habitat with tortoise population densities of 50 tortoise per square mile or greater. All WSAs contain tortoise populations.

SOURCE: Phoenix District files

authorized or pending that would cross the WSA. Interstate 10 forms approximately four miles of the northern boundary of the WSA. A proposed one-mile-wide utility corridor along Interstate 10 would extend for four miles inside the WSA's boundary.

There is currently a U.S. Fish and Wildlife Service withdrawal application on approximately 38,375 acres of the WSA. This withdrawal application, if approved, would extend the current Kofa Wildlife Refuge boundary.

RANGELAND MANAGEMENT

The New Water Mountains WSA comprises approximately 17 percent of the Crowder-Weisser allotment. No operational rangeland developments currently exist within the WSA's boundaries.

CULTURAL RESOURCES

During BLM's cultural resource inventory, three prehistoric sites were found in the New Water Mountains WSA. Site types found include a lithic quarry, lithic scatter, and several caves. Over 15,330 acres in this WSA are likely to contain cultural resources (Table S-6). Areas with a high probability of containing cultural resources are the New Water Mountains, Chalk Wash, and an area from Black Mesa extending south and east.

TABLE S-6
ACRES LIKELY TO CONTAIN CULTURAL RESOURCES BY WSA
Bureau of Land Management, Phoenix District, Arizona

	Total Acres	Acres Likely To Contain Cultural Resources
New Water Mountains	40,375	15,330
Little Horn Mountains West	12,660	7,180
Little Horn Mountains	90,430	31,535
Eagletail Mountains	117,065	62,340
East Clanton Hills	36,560	11,725
Face Mountain	27,575	9,180
Signal Mountain	19,640	3,490
Woolsey Peak	73,930	26,585
North Maricopa Mountains	70,468	17,880
South Maricopa Mountains	71,320	14,040
Butterfield Stage Memorial	9,566	4,480
Table Top Mountains	37,968	14,795
TOTALS	607,557	218,560

SOURCE: Phoenix District Files

Based on Rodger's (n.d.) survey findings of prehistoric tools dating prior to 7000 B.C., it is apparent that the New Water Mountains were used over a long period of time. Site types suggest use of this area for the procurement of lithic raw materials and their manufacture. Ceremonial and small group seasonal hunting and gathering activities also occurred here.

Field personnel recorded a fairly high level of disturbance to the nonrockshelter sites by natural erosion, heavy mining, and ORV activity which have reduced their integrity. Rodgers (n.d.) also reported that most sites were in poor condition, having been disturbed by vandalism. The rockshelters, however, appeared to be in fair condition.

PROTECTED PLANTS

Vegetation of the New Water Mountains WSA is characteristic of the paloverde-mixed cacti series of the Sonoran desertscrub biotic community (Brown, 1982). The area provides potential habitat for the following four special status plant species: *Allium parishii* Wats. (Parish wild onion), *Colubrina californica* I.M. Johnst. (California snakebush), *Selaginella eremophila* Maxon (desert spike moss), and *Peniocereus greggii* (Engelm.) (B. & R.). *A. parishii, C. californica,* and *S. eremophila* are sensitive species that are on the Arizona Natural Heritage Program's list of special plants. *P. greggii* is a Category 2 candidate for listing under the Endangered Species Act of 1973, as amended, and may be threatened in the area by cactus collectors.

A. parishii is apparently rare in Arizona. The only known populations in the state are from the Kofa Mountains. In Arizona, *C. californica* is known from widely scattered and very localized populations in La Paz, Maricopa, Pima, Pinal, and Yuma Counties. In Arizona *S. eremophila* and is known from only five isolated localities in Yuma, Maricopa, and Pima Counties.

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Recreation visitor use in the WSA is estimated at 1,000 visitor days/year (Table S-7). Primary uses include camping, hunting, sightseeing, hiking, ORV, and

TABLE S-7
RECREATION EXPENDITURES BY WSA
Bureau of Land Management, Phoenix District, Arizona

WSAs	Existing Recreation Visitor Use*	Expenditures Relating to Existing Uses**
New Water Mountains	1,000	$ 3,820
Little Horn Mountains West	500	1,910
Little Horn Mountains	1,000	3,820
Eagletail Mountains	1,500	5,730
East Clanton Hills	400	1,528
Face Mountain	300	1,146
Signal Mountain	300	1,146
Woolsey Peak	200	764
North Maricopa Mountains	1,500	5,730
South Maricopa Mountains	300	1,146
Butterfield Stage Memorial	2,000	7,640
Table Top Mountains	1,000	3,820
TOTAL	10,000	$38,200

* Recreation visitor use is based on estimates in the recreation section.

** Expenditure estimates are based on $3.82 per 12-hour visitor day.

SOURCE: ASO Wilderness Survey (BLM 1983), Arizona State Office files

rock collecting. There are 20.7 miles of vehicle ways located within the WSA. The public lands within the WSA boundary have not been classified according to BLM's VRM classification system (Table S-8).

TABLE S-8
VISUAL RESOURCE MANAGEMENT CLASS ACREAGES
Bureau of Land Management, Phoenix District, Arizona

WSAs	VRM Classes I	II	III	IV	V	TOTAL WSA ACREAGE
New Water Mountains	0	0	40,375*	0	0	40,375
Little Horn Mountains West	0	0	12,660*	0	0	12,660
Little Horn Mountains	0	0	90,430*	0	0	90,430
Eagletail Mountains	0	0	117,065*	0	0	117,065
East Clanton Hills	0	0	36,560*	0	0	36,560
Face Mountain	0	0	27,575*	0	0	27,575
Signal Mountain	0	0	0	19,640	0	19,640
Woolsey Peak	0	0	4,960	68,970	0	73,930
North Maricopa Mountains	0	48,708	14,720	7,040	0	70,468
South Maricopa Mountains	0	47,960	9,760	13,600	0	71,320
Butterfield Stage Memorial	0	9,246	320	0	0	9,566
Table Top Mountains	0	26,928	6,880	4,160	0	37,968
TOTALS	0	132,842	361,305	113,410	0	607,557

* Denotes public land acreages that have not been classified according to BLM's Visual Resource Management Classes.
SOURCE: VRM 8400 Planning Manual

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of the existing recreation use in the WSA to be 1,000 visitor days per year with annual recreation expenditures of $3,820.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Currently the lessees pay the government one dollar per acre per year for those oil and gas leases. One-half of this lease revenue is then returned to the state. Table S-9 shows potential lease revenues that would be collected by BLM if all acres in the WSA were leased and the amount that could potentially be returned to the state each year. The potential lease revenue collected by the BLM would amount to $40,375 per year.

TABLE S-9
OIL AND GAS LEASE REVENUE BY WSA
Bureau of Land Management, Phoenix District, Arizona

WSAs	Potential Acres Under Lease*	Potential Yearly Revenue	Potential Amount Returned To State**
New Water Mountains	40,375	$ 40,375	$ 20,188
Little Horn Mountains West	12,660	12,660	6,330
Little Horn Mountains	90,430	90,430	45,215
Eagletail Mountains	117,065	117,065	58,533
East Clanton Hills	36,560	36,560	18,280
Face Mountain	27,575	27,575	13,788
Signal Mountain	19,640	19,640	9,820
Woolsey Peak	73,930	73,930	36,965
North Maricopa Mountains	70,468	70,468	35,234
South Maricopa Mountains	71,320	71,320	35,660
Butterfield Stage Memorial	9,566	9,566	4,783
Table Top Mountains	37,968	37,968	18,984
TOTAL	607,557	$607,557	$303,780

* Assumes all acres in a WSA are leased.
** One-half of all lease revenues collected by BLM are returned to the State of Arizona.
SOURCE: Lower Gila South MSA, Phoenix District files

Little Horn Mountains West (AZ-020-126A)

WILDERNESS VALUES

Location and Boundaries. The Little Horn Mountains West WSA lies in La Paz and Yuma Counties, 30 miles southeast of Quartzsite, Arizona (Map 2-2).

Size. The WSA contains 12,660 acres of public land.

Naturalness. The WSA is predominantly natural with human activity largely unnoticeable. The WSA consists of basalt hills and low mountains punctuated by volcanic plugs and dikes, narrow ridges, and window arches. Canyons and washes in the WSA are generally shallow, open, and rocky. Vegetation consists of a paloverde-saguaro mix on the hills, desertscrub in the lower areas, and desert riparian communities in the washes.

The WSA has five miles of vehicle ways, several historic mines, and one mile of fence. The individual or cumulative impacts of these imprints do not greatly degrade the WSA's natural character.

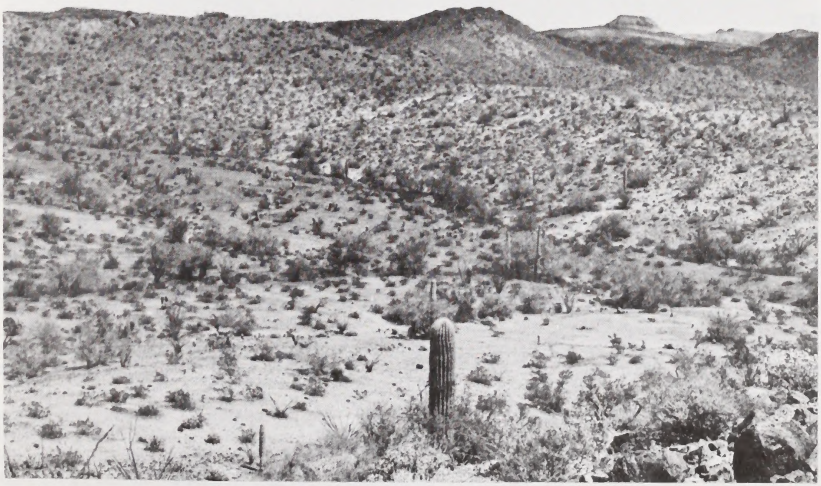
Solitude. The WSA contains outstanding opportunities for solitude. The jumbled arrangement of basalt hills and low mountains separated by small canyons offer the hiker many secluded areas. Good vegetative screening is available in the WSA's canyons and the smaller washes. The lack of a single dominant topographic feature in the WSA would tend to disperse use, enhancing one's opportunity to avoid others. Solitude opportunities are enhanced by the presence of the Kofa National Wildlife Refuge to the west. About 570,600 acres of the refuge have been administratively endorsed for wilderness.

Primitive and Unconfined Recreation. The WSA does not contain outstanding opportunities for primitive recreation because of its relatively small size.

Special Features. Special wildlife and cultural resource features contribute to the WSA's wilderness characteristics. The entire WSA is considered crucial desert bighorn sheep habitat. Also fox, mule deer, and raptors are commonly seen. Approximately 7,180 acres of the WSA may contain sensitive cultural resources.

MINERALS AND ENERGY

As of September 1984, there were 844 mining claims within or adjacent to this WSA. Production of metallics is reported in the Index of Mining Properties for Yuma County (Bureau of Geology and Mineral Technical Bulletin 192, 1978). The following minerals were reported: gold, silver, manganese, iron, copper, and lead. These deposits were reported as occurring along fault zones in



Desert Wash Crossing The Little Horn Mountains West WSA

tertiary rhyolitic-andesitic volcanics (Wilt, 1984; Woodward, 1984). The potential for development of these minerals is rated medium (Table S–4). Occurrences of barite and kaolin have been noted and mined. The WSA has no known uranium deposits. This area is covered by a region of geothermal resources. Recent Pleistocene basaltic flows, volcanism, and temperature gradient wells indicate a hot magnetic body beneath the area (Bureau of Geology and Mineral Technology, 1965, 1967, 1978, 1983; Arizona Geological Society Digest, 1981 and 1984; Keith, 1984). Map 3–2 shows the areas in this WSA that are likely to contain mineral and geothermal resources.

WILDLIFE

The Little Horn Mountains West WSA is composed of paloverde-mixed cacti and creosotebush-bursage habitats. The WSA contains 12,660 acres of crucial desert bighorn habitat, and low density tortoise habitat occurs throughout the WSA (Map 3–11 and Table S–5). More than 80 species of wildlife use the WSA's creosotebush-bursage habitats, and more than 110 species use the WSA's paloverde-mixed cacti habitats. Some WSA wildlife values include habitat for: golden eagles, prairie falcons, Gila monsters, mule deer, kit fox, Gambel's quail, and mourning and white-winged doves.

LAND USES

A 40-acre private inholding of surface estate and a state owned 640-acre mineral estate are within the WSA. No rights-of-way or utility corridors exist or are proposed within the WSA boundary.

RANGELAND MANAGEMENT

The Little Horn Mountains West WSA overlaps small portions of three perennial-ephemeral grazing allotments involving 12,660 public acres. The WSA overlaps the three allotments as follows: Crowder-Weisser—6,860 acres or three percent overlap, Eagle Tail—3,200 acres or two percent overlap, and Ranegras Plain—2,600 acres or two percent overlap. There are no rangeland developments in use within the WSA.

CULTURAL RESOURCES

Approximately 7,180 acres in this WSA or 57 percent have a high probability of containing cultural resources (Table S–6). Site types found during a random sample survey include a lithic scatter, rockshelters, and isolated lithic flakes and tools.

Except for that portion of the Little Horn Mountains lying north and east of Royal Arch, all of the mountainous areas within the WSA probably contain cultural resources. Identified site types suggest utilization of the area for purposes of gathering raw lithic materials for tool manufacture and food procurement.

PROTECTED PLANTS

Vegetation of the Little Horn Mountains West WSA is characteristic of the paloverde-mixed cacti series of the Sonoran desertscrub biotic community (Brown, 1982). The area provides potential habitat for four special-status plant species. *Peniocereus greggii* is a Category 2 candidate for listing under the Endangered Species Act of 1973, as amended, and may be threatened in the area by cactus collectors. *Allium parishii* is apparently rare; the only known Arizona populations are from the Kofa Mountains. In Arizona, *Colubrina californica* is known from widely scattered and very localized populations in La Paz, Maricopa, Pima, Pinal, and Yuma Counties. Two populations have been documented within a mile of the existing WSA boundary. *Selaginella eremophila* is rare in Arizona and is known in the state from only five isolated localities in Yuma, Maricopa, and Pima Counties.

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Visitor use in this WSA is estimated to be 500 visitor days/year (Table S–7). Use includes hiking, hunting, camping, sightseeing, ORV use, and rock collecting. There are five miles of vehicle ways within this WSA. Public lands in the WSA have not been classified according to BLM's VRM Classification System (Table S–8).

ECONOMIC CONDITIONS

Recreation Economics. Table S–7 shows an estimate of existing recreation use in this WSA to be 500 visitor days per year with annual recreation expenditures of $1,910.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S–9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenue amounts to $12,660 per year.

Little Horn Mountains (AZ-020-127)

WILDERNESS VALUES

Location and Boundaries. The WSA is located in La Paz and Yuma Counties, 38 miles southeast of Quartzsite, Arizona (Map 2-2). The area is bordered by graded roads on the west, south, and east and a gas pipeline right-of-way and unnamed ranch roads on the north.

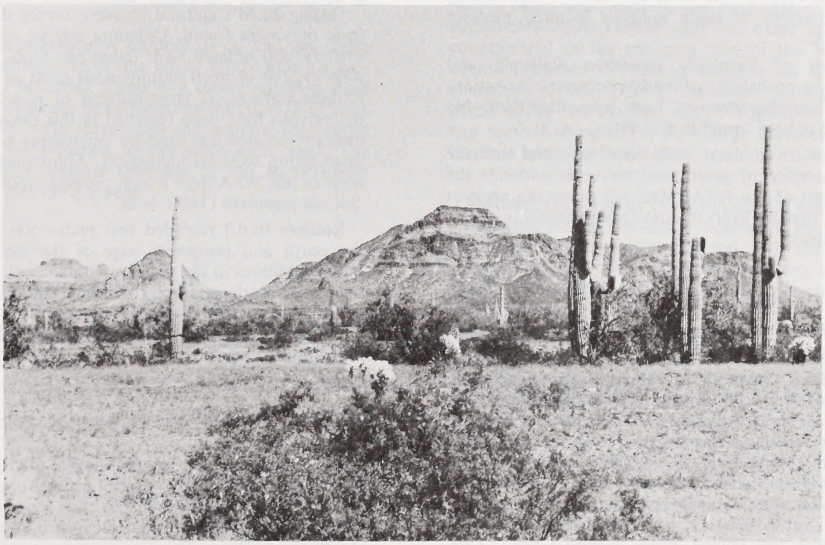
Size. The Little Horn Mountains WSA contains 90,430 acres of public land.

Naturalness. The Little Horn Mountains WSA is predominantly natural with negligible human imprints. The southern half of the WSA consists of the Little Horn Mountains, a highly dissected range of basalt and Kofa volcanics (andesite and rhyolite). The core of the range is a large basalt mesa cut by two 800-foot canyons with numerous small canyons cutting the periphery of the mesa. This cutting action has exposed the colorful Kofa volcanics whose reds, buffs, and yellows provide a striking contrast to the dark basalt.

The topography of the northern side of the WSA is relatively flat. The Ranegras Plain, on the WSA's north side, is natural and almost free of vehicle tracks. The Nottbusch Valley and Palomas Plain portions of the WSA, on the east and southeast, are more rugged with rolling hills and sandy washes.

The WSA has three cherrystem roads accessing Arizona Game and Fish Department water catchments, 38 miles of vehicle ways, five miles of fenceline, and three mining sites. Four vehicle ways intersect in the center of the WSA on the Ranegras Plain, but these ways are well screened and, except for their actual intersections, are separated by several miles. All other imprints in the WSA are widely scattered and screened by plants and topography. Therefore, the imprints do not individually or cumulatively affect the WSA's naturalness.

Solitude. The entire WSA contains outstanding opportunities for solitude because of its size, variety of access, and varying hiking routes. The jumbled arrangement of basalt mesas, hills, and low mountains separated by small canyons offer the hiker many secluded areas. Many individuals or groups could visit the area without diminishing opportunities for outstanding solitude.



Little Horn Peak—Little Horn Mountains WSA

Primitive Recreation. The variety of topography found in the WSA and its size combine to provide outstanding opportunities for primitive recreation. Primitive recreation opportunities are considered best in the WSA's rugged southern portion because of the areas more diverse terrain and scenic features. Also, extensive vistas of surrounding mountain ranges are available. Additionally, hunting, hiking, camping, and horseback riding opportunities are excellent in the WSA.

Special Features. The WSA is a major use area for bighorn sheep. All areas exhibiting steep cliff faces provide important nesting habitat for raptors. Much of the WSA is likely to contain archaeological sites related to tool manufacture and food gathering.

MINERALS AND ENERGY

As of September 1984 there were 314 mining claims within and adjacent to this WSA. The Laramide mineralization and the concentration of minerals in faults cutting the Laramide rhyolite-andesite volcanics give this WSA a medium potential for minerals (Table S-4). Recent late tertiary-quaternary basaltic eruptions and flows augment the mineral concentrations by supergene enrichment. Known metallic mineral production is recorded for copper, gold, lead, silver, and manganese. Some molybdenum has been indicated. The potential for development of these minerals is rated medium (Table S-4).

Outcrops of Paleozoic limestone, Redwall, and Kaibab pose probability of marble occurrences. Actinolite and tremolite deposits have been identified. No uranium has been found in this WSA.

Temperature gradient wells have indicated that the edge of a region of geothermal resources underlies the western part of the WSA. Map 3-2 shows the areas in this WSA that are likely to contain mineral and geothermal resources.

WILDLIFE

The WSA is composed of paloverde-mixed cacti and creosotebush-bursage habitats. About 59,680 acres or 66 percent of the WSA is crucial desert bighorn habitat. The entire WSA is desert tortoise habitat (Table S-5). More than 80 species of wildlife use the WSA's creosotebush-bursage habitats and more than 110 species use the WSA's paloverde-mixed cacti habitats (Phoenix District files). Some WSA wildlife values include habitat for: golden eagles, prairie falcons, Gila monsters, mule deer, kit fox, Gambel's quail, and mourning and white-winged doves.

LAND USES

The WSA contains 1,320 acres of state-owned surface and minerals and 1,400 acres of split estate where the state owns the mineral estate. There are no private inholdings in the WSA.

No existing or pending rights-of-way are in the WSA. A proposed utility corridor would cross 4.3 miles of the WSA's northern boundary and would extend a half mile into the WSA along this 4.3-mile area.

RANGELAND MANAGEMENT

The Little Horn Mountains WSA overlaps three perennial-ephemeral grazing allotments involving 90,430 public acres. The WSA overlaps the three allotments as follows: Crowder-Weisser—8,000 acres or three percent overlap; Ranegras Plain—25,730 acres or 30 percent overlap; and Eagle Tail—56,700 acres or 30 percent overlap. Rangeland developments in the WSA include approximately five miles of allotment boundary fence that separates the Ranegras Plain and Crowder-Weisser allotments. There are no livestock water sources in operation at the present time.

CULTURAL RESOURCES

During BLM's cultural resource survey three prehistoric sites were found, including a lithic scatter, rockshelters, and isolated lithic flakes and tools. These sites were located in steep mountainous areas as well as flat lowland terraces. A large number of rockshelters and petroglyphs have been reported in this range. The sites indicate the area was used for ceremonial activities and small group seasonal habitation. Approximately 31,535 acres in this WSA have a high probability of containing cultural resources (Table S-6).

Rodgers (n.d.) recorded two prehistoric trails along the north and northwest edge of the mountains. In lower elevations in the major mountain valleys north of this range, Rodgers noted rock rings and lithic scatters. Most of the WSA's cultural resource sites remain in relatively good condition because of limited erosion and human disturbances.

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the hillsides and slopes and the creosotebush-bursage series on the Ranegras Plain. The area provides habitat for four special-status plant species. *Allium parishii* is apparently rare with the only known populations in Arizona

from the Kofa Mountains. Two populations of *Colubrina californica* have been documented within the WSA, and this species is known from widely scattered and very localized populations in La Paz, Maricopa, Pima, Pinal, and Yuma Counties. *Selaginella eremophila* is rare in Arizona and is known from only five isolated localities in Yuma, Maricopa, and Pima Counties. One population of *Peniocereus greggii* has been documented on the Ranegras Plain within the existing WSA boundary, and this species may be threatened by cactus collectors.

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Recreation use in the WSA is considered to be low to moderate. Visitor use is estimated at 1000 visitor days/year (Table S-7) with the primary uses being hiking, hunting, camping, and rock collecting. The WSA contains 38 miles of vehicle ways. Public lands within the WSA have not been classified according to BLM's VRM Classification System (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of existing recreation use in the WSA to be 1,000 visitor days per year with annual recreation expenditures of $3,820.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that could potentially be returned to the state each year. The potential lease revenue collected by the BLM would amount to $90,430 per year.

Eagletail Mountains (AZ-020-128)

WILDERNESS VALUES

Location and Boundaries. The Eagletail Mountains WSA is located approximately 65 miles west of Phoenix, Arizona. The WSA's boundaries are shown on Map 2-3.

Size. This WSA contains 117,065 acres of public land.

Naturalness. The Eagletail Mountains WSA is essentially natural with human influences largely unnoticeable. The WSA contains 15 miles of the Eagletail Mountains' ridgeline to the north, Cemetery Ridge to the south, and a huge desert plain between the two ridgelines. Elevations range from 1,200 feet on the desert floor to 3,300 feet at Eagletail Peak.

The WSA's terrain is highly variable, ranging from a flat, gently rolling landform to one that is highly incised and dissected. The north slopes of the Eagletails rise abruptly from the desert floor and the elevational increases are spectacular. Cemetery Ridge is a much less dramatic range with its most outstanding feature being Nottbusch Butte located in the center of the ridge.

Several different rock strata are visible in most places throughout the Eagletail Mountains. Weathering and erosion of these mountains have created spectacular landforms. Natural arches occur along with high spires, monoliths, and jagged sawtooth ridges that drop off almost vertically to the desert floor. Numerous washes cross the WSA's desert plains. Wash lengths of six to eight miles within the WSA are common. The plant life of the WSA is characteristic of the Sonoran Desert and varies according to elevation and aspect.

The WSA has four cherrystem roads totaling 16.5 miles and 106.25 miles of vehicle ways. Most of the vehicle ways are located in the WSA's lower bajada region. These vehicle ways lead to abandoned quarry sites, old campsites, well sites, water diversion scrapes, mining exploration scrapes, old mine shafts, and water catchments. Most vehicle ways and other imprints are concentrated in the northern part of the WSA. The overall influence of human imprints on the natural character of the WSA's landscape is negligible as perceived by the average visitor. Vegetation screening and natural revegetation on a large percentage of the imprints lessen their presence.

Solitude. Outstanding opportunities for solitude exist within the WSA. The dense vegetative cover of the bajadas and desert plains coupled with the dramatic topographic relief of the mountains and large size of the area, create ample and outstanding opportunities to avoid the sights and sounds of others within the area. Also, the variety of access points and possible hiking routes further disperses users and ensures visitor solitude.

Solitude opportunities in this WSA, while outstanding, are affected by the evidence of human activity. Numerous vehicle ways, old mine workings, and prospect scrapes exist along the northern edge of the WSA. Visitors crossing this area may occasionally encounter unnatural features. Such encounters could detract from their sense of solitude.

Primitive Recreation. The topographic diversity, scenic character, vast size, and botanical, wildlife, and

Eagletail Mountains WSA

cultural values of the WSA create outstanding opportunities for primitive and unconfined recreation.

The WSA's large size would allow for extended horse and backpack trips. Diverse plants, landforms, and wildlife offer visitors excellent sightseeing and photographic opportunities. Superb vistas of southwest Arizona are available to visitors hiking the Eagletail Mountains rugged ridgelines. Courthouse Rock is a favorite of rock climbers. Day hiking opportunities are also excellent since many of the WSA's most scenic areas and best special features are within a few miles of maintained boundary roads. The WSA's large desert plain area allows a recreationist to walk for hours without encountering any human evidence.

Visitors to the foothill and plain areas north of the Eagletail ridgeline might have the quality of their wilderness experience compromised because of the accumulation of vehicle ways, old mines, and prospects in these areas.

Special Features. The WSA contains cultural, wildlife, scenic, and botanical values which contribute to its overall wilderness quality. Cultural sites located in the WSA include numerous petroglyphs and artifacts.

Crucial desert bighorn sheep habitat within the WSA occurs in the Eagletail Mountains and along Cemetery Ridge. All areas exhibiting steep cliff faces provide important nesting habitat for raptors. Common wildlife in the area include jackrabbits, coyotes, ground squirrels, great-horned owls, and large coveys of quail.

The Arizona Academy of Science (Smith, 1976) has proposed the northeastern corner of the Eagletail Mountains as a 32,000-acre natural area. The proposal is based on the Eagletails' outstanding geologic, botanic, and scenic qualities.

MINERALS AND ENERGY

There are presently 36 mining claims within or adjacent to the WSA's boundary. Eight mapped major faults and three mid-tertiary volcanic episodes indicate that the WSA has a high mineral potential (Table S–4). Some isolated outcrops of Paleozoic marine sedimentary units and the Precambrian schist-shale formation along with the Precambrian and Mesozoic granitic bodies have been intruded by the Laramide rhyolitic

volcanism and Quaternary basaltic volcanism. These circumstances usually lead to areas of concentrated mineralization. The potential for development of these minerals is rated medium (Table S-4)

Known metallic deposits have been identified that carry gold, silver, copper, and molybdenum. Manganese, barium, and lead veins have also been identified. Actinolite and tremolite are the only nonmetallics identified as occurring in the Eagletail Mountains. No uranium or geothermal potentials have been identified within this WSA. Areas within the WSA that are likely to contain mineral resources are shown on Map 3-3.

WILDLIFE

The WSA is composed of paloverde-mixed cacti and creosotebush-bursage habitat. The WSA contains 70,200 acres of crucial desert bighorn habitat and low-density tortoise habitat throughout (Map 3-12 and Table S-5). The bighorn population in this WSA has recently been supplemented by the Arizona Game and Fish Department, and several habitat improvement projects have occurred here. More than 80 species of wildlife use the creosotebush-bursage habitats and more than 110 species use the paloverde-mixed cacti habitats (Phoenix District files). Some WSA wildlife values include habitat for: golden eagles, prairie falcons, Gila monsters, mule deer, kit fox, Gambel's quail, and mourning and white-winged doves.

LAND USES

The Eagletail Mountains WSA contains 117,065 acres of public lands, 3,203 acres of state surface and mineral inholdings, and 641 acres of split estate lands where the state owns the mineral rights. There are no private inholdings in the WSA.

There is one existing pipeline right-of-way that extends into the study area boundary at T. 1 N., R. 10 W., Sec. 13. There are no pending rights-of-way that would affect the area. The El Paso Natural Gas Company right-of-way borders the WSA for approximately 13 miles on the north and northeast edges. A proposed utility corridor would extend a half mile into the WSA boundary for 13 miles.

RANGELAND MANAGEMENT

The Eagletail Mountains WSA overlaps portions of three perennial-ephemeral grazing allotments. The WSA overlaps the allotments as follows: Eagle Tail—106,700 acres or 56 percent overlap; Clem—5,290 acres or two percent overlap; and Ranegras Plain—5,075 acres or five percent overlap.

Several rangeland developments used in livestock grazing operations exist within the WSA boundary. A majority of the WSA's rangeland developments occur in the Eagle tail allotment. These consist of one equipped well and a developed spring in the northern part of the WSA. One well or reservoir exists in the Ranegras Plain allotment in the western edge of the WSA. In addition, 106 miles of vehicle ways used for livestock management exist in the WSA.

CULTURAL RESOURCES

During BLM's cultural resource inventory, five prehistoric sites were recorded for the Eagletail Mountains WSA. Site types include a large lithic scatter/knapping station, rock rings, a rockshelter, and a large number of petroglyphs. In fact, one site eligible to the National Register contains numerous petroglyph panels, some of which are possibly over 10,000 years old.

Rodgers (n.d.) recorded trails, trail segments, and rockshelters with artifact caches along the north base of the Eagletail Mountains. Furthermore, certain areas in this range are believed to be where Yavapai and Maricopa ancestors resided, and these areas have significance to these groups (Cultural Systems Research, Incorporated 1978).

The cultural resources in this WSA are generally in good condition, and the overall site integrity is considered excellent. About 62,340 acres representing 53 percent of the WSA is likely to contain cultural resources (Table S-6).

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes and upper bajadas surrounding the range and the creosotebush-bursage series on the lower bajadas. The flora of the Eagletail Mountains is of particular significance due to the presence of relict juniper and oak. Two plants of juniper (probably *Juniperus erythrocarpa*) remain on a north facing slope near Eagletail Peak. The junipers appear to be quite old with several main branches arising from the base. Scrub oak is restricted to a few north facing slopes and canyons. Specimens collected were intermediate between *Quercus turbinella* ssp. *turbinella* and *Q. t.* ssp. *ajoensis*. Juniper and oak have apparently not been previously reported from this mountain range (Brown, 1978).

The WSA also provides habitat for four special status plant species. *Colubrina californica, Selaginella eremophila, Peniocereus greggii,* and *Allium parishii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Recreation use in the WSA includes hunting, rock collecting, camping, ORV use, hiking, and sightseeing. Recreation use is moderate and is concentrated in and near the Eagletail Mountains, which offer a variety of recreational opportunities. Visitor use for the area is estimated to be 1,500 visitor days/year (S-7). There are 106.25 miles of vehicle ways in the Eagletail Mountains WSA. Public lands in this WSA have not been classified according to BLM's VRM Classification System (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of existing recreation use for this WSA to be 1,500 visitor days per year with annual recreation expenditures of $5,730.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by BLM if all acres in this WSA were leased and the amount that potentially could be returned to the state each year. The potential lease revenue collected by BLM would amount to $117,065 per year.

East Clanton Hills (AZ-020-129)

WILDERNESS VALUES

Location and Boundaries. The East Clanton Hills WSA is located along the Yuma-Maricopa County line approximately 25 miles southwest of Tonopah, Arizona. The WSA's boundaries are shown on Map 2-4.

Size. This WSA contains 36,560 acres of public land.

Naturalness. The East Clanton Hills WSA is predominantly natural. The WSA includes the western portion of the Gila Bend Mountains and a small portion of the Hyder Valley. The mountains in the WSA are sometimes referred to as the East Clanton Hills or Picacho Hills. These hills rise abruptly 800 to 900 feet from the relatively flat Hyder Valley to the south. The hills are less precipitous to the north as they descend to the Nottbusch Valley. Comprised of andesite, basalt, and schist, these colorful hills traverse this seven-mile-wide WSA. The southern half of the WSA is an alluvial plain characterized by sizable expanses of barren desert that is frequently interspersed with north-south trending drainages.

Vegetation is sparse across most of the area. Ground cover consists of Sonoran desertscrub and paloverde-saguaro communities. Riparian vegetation is dense in some of the washes.

Thirty-seven miles of vehicle ways occur in the WSA, but most are not easily seen from the ground. Several of these ways lead to old mines, prospects, reservoirs, and water catchments, whereas others merely traverse the WSA. Three seismic exploration lines (12 miles long) are located in the Hyder Valley portion of the WSA. The overall influence of human imprints on the naturalness of the area is negligible.

Solitude. Outstanding opportunities for solitude are present throughout the WSA. There are excellent opportunities to avoid the presence of man because of the area's large size, its varied terrain, and diversity of attractions.

The Hyder Valley portion of the WSA offers exceptional opportunities for solitude. The valley's vegetation, desert swales, and numerous washes provide excellent screening. In addition, the size of this expansive plain provides the hiker with a sense of total seclusion.

The mountainous northern portion of the area presents opportunities to explore a complex series of peaks, ridgelines, washes, valleys, and canyons. This diverse terrain effectively screens hikers from each other and provides numerous secluded areas.

Primitive Recreation. The landscape of the East Clanton Hills WSA provides outstanding opportunities for a variety of primitive and unconfined recreation opportunities. The most outstanding opportunities for hiking, backpacking, hunting, and nature photography or sightseeing are found in the northern part of the WSA.

The WSA's picturesque volcanic hills and dramatic desert vistas offer excellent settings for both the photographer and sightseer. Hunting opportunities for deer are best in the WSA's northern portion near Nottbusch Valley. Wildlife observation opportunities are also good. The mountains are a wintering ground for bighorn sheep, zonetailed hawks, prairie falcons, and golden eagles. Horseback riding and rock climbing opportunities are considered excellent in most of the WSA.

Special Features. The WSA's mountains are crucial bighorn sheep habitat and the southwestern quarter is crucial desert tortoise habitat. A variety of sensitive cultural resources have been located in the central mountainous area. A large Hohokam village site was previously recorded here. Two other site types encountered were rockshelters and a lithic site with associated rock rings.

MINERALS AND ENERGY

There are presently 198 mining claims within this WSA, and the WSA's mineral potential is rated as low (Table S-4). This WSA has some production potential for gold, silver, copper, molybdenum, and lead. Also, there is some evidence that extensive low grade copper and associated metals exist and that these are of economical grade. Exploration interest has been expressed by several large mining companies, however, the potential for further development of these minerals is thought to be low (Table S-4). Fluorspar and mica have been mined in this WSA. No uranium has yet been found in the area.

An oil and gas bore hole on the southern border of this WSA indicated that the area has good to excellent geothermal potential (Bureau of Geology and Mineral Technology, 1978). Areas in the WSA that are likely to contain mineral or geothermal resources are shown on Map 3-4.

WILDLIFE

The WSA is composed of paloverde-mixed cacti and creosotebush-bursage habitats. It contains 18,280 acres of crucial desert bighorn habitat and 5,480 acres of crucial desert tortoise habitat (Table S-5 and Map 3-13). More than 80 species of wildlife use the creosotebush-bursage habitats and more than 110 species use the paloverde-mixed cacti habitats (Phoenix District files). Some WSA wildlife values include habitat for: golden eagles, prairie falcons, Gila monsters, mule deer, kit fox, Gambel's quail, and mourning and white-winged doves.

LAND USES

The WSA has one parcel (40 acres) of nonfederal mineral ownership. All other lands in the WSA are federally owned. There are two existing rights-of-way that are within the WSA boundary. The first right-of-way is a pipeline located at T. 2 S., R. 10 W. and T. 3 S., R. 10 W. The second is a road right-of-way located at T. 3 S., R. 11 W. No other rights-of-way exist or are pending.

RANGELAND MANAGEMENT

The WSA is comprised of portions of two grazing allotments: the Eagle Tail and Palomas allotments. The WSA overlaps the allotments as follows: Eagle Tail—25,360 public acres or six percent overlap and Palomas—11,200 or 23 percent overlap.

Rangeland developments within the WSA are all in the Eagle Tail allotment and include one equipped well, a corral, a reservoir, a spring development, and several miles of vehicle way used to manage livestock.

CULTURAL RESOURCES

During BLM's cultural resource inventory of the WSA two site types were encountered. These sites included a prehistoric rockshelter and an extensive lithic scatter with associated rock rings. In addition, a large Hohokam village site was previously recorded. The WSA contains 11,725 acres that are likely to contain cultural resources (Table S-6).

The large lithic site suggests very intensive, repeated use of the area for tool manufacturing purposes. The habitat sites, the village, and rockshelters imply both long- and short-term utilization of the WSA for food procurement. Except for some ORV activity and natural erosion, these sites are in excellent condition.

Based on an ethnographic study conducted by Cultural Systems Research, Inc. (1978), the Gila Bend Mountains are also considered to have high religious subsistence significance to the Yavapai, Maricopa, Pima, and Papago Indians. The western portion of these mountains extends into the East Clanton Hills WSA.

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes associated with the Gila Bend Mountains and the creosotebush-bursage series on the Palomas Plain. The area provides potential habitat for three special status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Recreational use in the WSA includes camping, hunting, hiking, and rock collecting. Some ORV use occurs along the vehicle ways, washes, and flats in the southern one-third of the WSA. Visitor use is estimated to be 400 visitor days/year (Table S-7). There are 37 miles of vehicle ways in this WSA. Public lands in the WSA have not been classified according to BLM's VRM Classification System (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of the existing recreation use for this WSA to be 400 visitor days per year with annual recreation expenditures of $1,528.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenue collected by the BLM would amount to $36,560 per year.

Face Mountain (AZ-020-136)

WILDERNESS VALUES

Location and Boundaries. This WSA lies 33 miles southwest of Buckeye, Arizona in Maricopa County. The WSA's boundaries are shown on Map 2-5.

Size. The WSA contains 27,575 acres of public land.

Naturalness. The WSA's most dominant physical feature is Face Mountain which rises 1,200 feet above the valley floor and dominates the surrounding landscape. To the west and southwest of this mountain lies the relatively flat plain of Hyder Valley. Dendora Valley, located north and east of Face Mountain, has an undulating appearance and is highly dissected by numerous washes. The WSA's northern part consists of a complex arrangement of hills that rise 300 feet above the valley floor.

Face Mountain WSA is within the Lower Sonoran life zone. Vegetation ranges from a sparse creosotebush-bursage association, to a dense paloverde-saguaro community, to a cholla thicket atop the ridges of Face Mountain. Desert riparian communities exist along Loudermilk and Yellow Medicine Washes.

The WSA has 17 miles of vehicle ways, a series of three earthen flood-control structures, a 0.75 mile road accessing an Arizona Game and Fish Department water catchment, one radio wave reflector, and two wooden bench mark structures. None of these imprints individually nor in combination degrade the WSA's naturalness.

Face Mountain WSA

Solitude. The WSA's numerous washes, large size, and remoteness offer outstanding opportunities for solitude. However, solitude opportunities are occasionally disrupted by the sounds of passing train traffic. Access to this area is good and visitors would be able to enter the WSA from several areas. Visitor use concentrations are unlikely, and visitors can find many areas to escape the sights and sounds of others in the area.

Primitive Recreation. Although the WSA does offer some opportunity for primitive and unconfined recreation, these opportunities are not outstanding because the WSA lacks topographic diversity.

Special Features. Cultural sites are likely to exist along the bajadas, valleys, and lower slopes around Face Mountain.

MINERALS AND ENERGY

As of September 1984, there were 32 mining claims in this WSA. Lead, zinc, and silver production have been recorded but this WSA is thought to have a low potential for mineralization (Table S-4). Very little exploration has been done in the WSA. Until the area is further explored, mineral potential ratings remain speculative. Based on geologic inference the potential for development of minerals in the WSA is rated as low (Table S-4). No nonmetallics are presently known in the WSA. The WSA is near excellent geothermal resource areas, but no geothermal areas are indicated within the boundaries. Areas in the WSA that are likely to contain mineral resources are shown on Map 3-5.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitat. It contains low-density tortoise habitat throughout. More than 80 species of wildlife use the WSA's creosotebush-bursage habitats and more than 110 species use the WSA's paloverde-mixed cacti habitats (Phoenix District files). Some WSA wildlife values include habitat for: golden eagles, prairie falcons, Gila monsters, mule deer, kit fox, Gambel's quail, and mourning and white-winged doves.

LAND USES

There are no existing or pending rights-of-way that would affect the subject lands. The San Diego Gas and Electric Company's 500-kV transmission line does form about 6.5 miles of the southern and southeastern boundary of the WSA. A one-mile-wide utility corridor is proposed that follows this transmission line. If established, the corridor would extend a half mile into the WSA for the 6.5 miles.

RANGELAND MANAGEMENT

The Face Mountain WSA consists of portions of three grazing allotments. The WSA overlaps the allotments as follows: Amavisca—8,960 public acres or 34 percent overlap; Mariani—1,120 public acres or 14 percent overlap; Gable-Ming—17,495 public acres or 14 percent overlap.

One reservoir on the Gable-Ming allotment is within the WSA. Several miles of vehicle ways also exist that may be used for livestock management.

CULTURAL RESOURCES

An 9,180-acre area around the lower elevations of Face Mountain and also the far eastern one-fourth of the WSA are likely to contain cultural resources (Table S-6). Especially the basalt cobble substrata of the Dendora Valley is likely to contain chipping stations, sleeping circles, and prehistoric trails. An extensive archaeological district in the eastern one-fourth of the WSA has been nominated to the National Register.

Public visitation and use of the area are quite limited, thus the cultural resources in the WSA are probably in good condition.

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes of Face Mountain and the creosotebush-bursage series on the surrounding desert plains. The area provides potential habitat for the following three special status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Hunting and camping are the primary recreation activities in the WSA. Recreation use is low and amounts to an estimated 300 visitor days/year (Table S-7). There are 17 miles of vehicle ways in this WSA. Public lands in this WSA have not been classified according to BLM's VRM Classification System (Table S-8).

Signal Mountain (Right) Viewed From Southern Portion Of WSA—Signal Mountain WSA

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows the estimate of existing recreation use for this WSA to be 300 visitor days per year with annual recreation expenditures of $1,146.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that potentially could be returned to the state each year. The potential lease revenue collected by the BLM would amount to $27,575 per year.

Signal Mountain (AZ-020-138)

WILDERNESS VALUES

Location and Boundaries. Signal Mountain WSA is in southwest Maricopa County, 18 miles northwest of Gila Bend, Arizona (Map 2-6). The WSA is bounded by roads and legal subdivision lines.

Size. Signal Mountain WSA contains 19,640 acres of public land.

Naturalness. This WSA is predominantly natural and nearly devoid of noticeable human features. The WSA is situated in the central part of the Gila Bend Mountains. Signal Mountain, at the center of the area, rises 1,200 feet above the bajada to an elevation of 2,182 feet. It is surrounded with steep walled canyons, arroyos, ridges, and sharp peaks.

Vegetation within this area consists of paloverde-saguaro and creosotebush-bursage communities. All of the washes are densely vegetated with mesquite, ironwood, acacia, and paloverde. Several species of cacti are found throughout the WSA.

Human imprints in the WSA include several mineral prospects, 5.75 miles of vehicle ways, a collapsed rock house, and one cement pad. These imprints, all screened from view by plants or terrain, are not highly noticeable and do not detract from the WSA's naturalness.

Solitude. The entire WSA provides outstanding opportunities for solitude. The numerous small valleys, canyons, and ridges around Signal Mountain and the

rolling hills and open washes in the rest of the WSA screen visitors and allow them to escape the sights or sounds of human activity. A variety of access points and hiking routes would further ensure the separation of visitors. Solitude opportunities, however, are occasionally disrupted by the sounds of passing trains.

Primitive Recreation. The Signal Mountain WSA provides several outstanding primitive recreation opportunities. Throughout the WSA users may encounter several species of wildlife. The canyons and valleys around Signal Mountain itself provide rock climbing opportunities on the many sheer canyon walls. Hiking, rockhounding, deer and quail hunting, and recreation opportunities are also available.

Special Features. Scenic, wildlife, and cultural values add to the WSA's wilderness character. Scenic views of both the rugged colorful terrain within the WSA and of surrounding mountain ranges is excellent. Crucial bighorn sheep habitat (7,860 acres) is found throughout the central mountainous portion of the area. A small area of crucial desert tortoise habitat (980 acres) extends into the northwest part of the WSA. About 3,490 acres of the WSA are considered likely to contain some type of archaeological features.

MINERALS AND ENERGY

As of September 1984, there were 243 mining claims in this WSA. Some low grade copper has been mined in this WSA. Although the copper is low grade, the accessory gold may be supreme in nature and worthy of mining. In addition, there is a known structure of welded tuff in the WSA that could be used for building stone. There is no known uranium in this WSA. This WSA is outside of any designated geothermal resources area; however, temperature gradient wells in the area have indicated the possibility of low temperature geothermal resources. The mineral potential is rated high but the potential for development is rated medium (Table S-4). Areas in the WSA that are likely to contain mineral or geothermal resources are shown on Map 3-6.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitat. It contains 7,860 acres of crucial desert bighorn habitat and 980 acres of crucial tortoise habitat (Table S-5 and Map 3-14).

LAND USES

The WSA contains 1,280 acres of split estate lands where the surface is publicly owned and the minerals are state owned. There are no existing or pending rights-of-way in the WSA. The San Diego Gas and Electric Company's 500-kV transmission line forms approximately four miles of the western boundary of the WSA. If the proposed utility corridor is allowed, it would extend a half mile into the WSA for four miles.

RANGELAND MANAGEMENT

The Signal Mountain WSA comprises approximately 17 percent of the Gable-Ming allotment. No rangeland developments occur within the boundaries of this WSA.

CULTURAL RESOURCES

During BLM's cultural resources inventory, prehistoric sites were recorded in the Signal Mountain WSA. Major site types encountered were rock alignments, sleeping circles, possible intaglios, chipping stations, and a possible habitation site. Numerous isolated artifacts and lithic outcrops were recorded. All sites located during this inventory are situated in the lowland terraces just above the Gila River floodplain. Approximately 3,490 acres in this WSA are likely to contain cultural resources (Table S-6).

Archaeological values indicate that only limited utilization of this area occurred during prehistory. Evidence suggests that activities related to the procurement of lithic raw materials and seasonal hunting and gathering were predominant.

All of the sites contained evidence of some degree of disturbance. With the exception of the habitation site, most damage appears to have been due to erosion and mining. However, the overall integrity is still good. The one habitation site discovered has been excessively disturbed by recent road grading and bulldozing activities.

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series occurring on the slopes of Signal Mountain and the creosotebush-bursage series on the surrounding desert plains. The area provides potential habitat for the following three special-status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Although hunting and camping are the primary recreation activities in the WSA, other activities like

ORV use and sightseeing occur to a lesser extent. Visitor use in this WSA is considered to be low and is estimated to be 300 visitor days/year (Table S-7). There are 5.75 miles of vehicle ways identified in the WSA. All of the 19,640 public acres in this WSA are classified as VRM Class IV (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows the estimate of existing recreation use for this WSA to be 300 visitor days per year with annual recreation expenditures of $1,146.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenues collected by BLM would amount to $19,640 per year.

Woolsey Peak (AZ-020-142/144)

WILDERNESS VALUES

Location and Boundaries. The Woolsey Peak WSA is located in southwestern Maricopa County, 11 miles northwest of Gila Bend, Arizona (Map 2-6). It is bounded by roads, state land, private land, and the Painted Rocks Reservoir.

Size. The WSA contains 73,930 acres of public land.

Naturalness. The WSA is generally in a natural condition with no significant human imprints. This WSA contains a variety of topographic features and encompasses a major portion of the stark and arid Gila Bend Mountains. A gently sloping lava flow extends from north to south, and a dozen basalt mesas rise sharply in the central portion. Rugged andesitic peaks and ridges lie in the western portions. The eastern part consists of granitic formations. The focal point of the WSA is Woolsey Peak (elevation 3,270 feet). The peak is a large volcanic plug that rises 2,500 feet above the Gila River. Woolsey Peak is a geographic landmark visible throughout southwestern Arizona.

The Woolsey Peak WSA is very barren and vegetation includes sparse populations of saguaro cactus, paloverde, creosote, and bursage. The drainages are lined with desert riparian flora.

The WSA has 31 miles of vehicle ways, five small material borrow pits, a wildlife catchment, a corral, two spring developments, a windmill, several mining prospects, and a fenceline. Neither the individual nor cumulative impacts of these imprints detract from the WSA's naturalness. Signs of human activity are widely scattered and screened by rugged terrain.

Solitude. Opportunities for solitude in the Woolsey Peak WSA are outstanding. The primary factors contributing to the opportunities for solitude are the large size of the unit, the diversity and ruggedness of the area's topography, and the variety of access within the WSA. Visitor use would be highly dispersed across a large area.

Solitude opportunities on the ridges and in the canyons of the WSA's extreme eastern side are slightly compromised by the noticeable human activity outside the WSA (agricultural lands and Gillespie Dam) and old vehicle ways and prospects within the WSA.

Primitive Recreation. The size, diversity, and ruggedness of the Woolsey Peak WSA provides outstanding opportunities for primitive and unconfined recreation. The size of the WSA allows for extended horseback riding, camping, and hiking trips as well as day use. The diversity of the topography ensures that primitive recreation opportunities are available for many visitors without sacrificing the experience of solitude or unconfinement.

Wildlife observation, photography opportunities, and scenic vistas are available throughout the WSA, but are especially good in the riparian habitats of the washes. Deer, cougar, fox, rabbits, bobcat, bighorn sheep, and numerous small animal species are present. Hawks, eagles, and owls are frequently observed.

Special Features. Wildlife habitats, cultural resources, and scenic values enhance the visitor's wilderness experience in the WSA. The northern half of the WSA (59,680 acres) is considered as crucial bighorn sheep habitat. A total of 26,585 acres of the WSA are likely to contain cultural resources.

Woolsey Peak WSA is a significant scenic resource. The diversity and ruggedness of the area presents an impression of scenic beauty. There are numerous steep mesas and buttes, some of which display unique sandstone layering. Woolsey Peak is the highest peak in the Gila Bend Mountains and offers impressive views of distant peaks and the desert plain below.

MINERALS AND ENERGY

As of September 1984 there were 244 mining claims in this WSA. The WSA's mineral potential is rated as medium (see Table S-4). The WSA has extensive copper deposits and has produced significant tonnage of medium grade ore. Lead, gold, and silver have been

Woolsey Peak Viewed From Bunyan Peak—Woolsey Peak WSA

mined with good results. Much of the copper deposits have carried good gold values and some silver. The potential for development of these minerals is rated as medium (Table S-4).

In addition, the WSA has produced barite, perlite, and some welded tuff building stone. There is also a possibility of low-grade uranium at depth in the ancient basin area of this WSA.

This WSA contains the eastern portion of a geothermal resource area designated by the U.S. Geological Survey (USGS) as a high potential for geothermal resources. The high heat flow plus wells with high temperature gradients make this WSA a prime geothermal resource area (Bureau of Geology and Mineral Technology, 1978). Areas in the WSA that are likely to contain mineral or geothermal resources are shown on Map 3-6.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitat. It contains 59,680 acres of crucial desert bighorn habitat, and low-density tortoise habitat occurs throughout the WSA (Table S-5 and Map 3-14).

LAND USES

There are no existing or pending rights-of-way or proposed utility corridors that would affect the area. There is an existing power site withdrawal covering approximately 1,200 acres in the southern portion of the WSA.

RANGELAND MANAGEMENT

The Woolsey Peak WSA consists of portions of five grazing allotments. The WSA overlaps the allotments as follows: Gable-Ming—13,440 public acres or 11 percent overlap, Gila River Community—32,010 public acres or 57 percent overlap, Hazen Sheppard—17,920 public acres or 77 percent overlap, Dendora Valley—6,080 public acres or 19 percent overlap, Jagow Kreager—4,480 public acres or 34 percent overlap.

Rangeland developments in the WSA consist of several miles of boundary and gap fences that lie between mountain ranges. In addition, one spring, several corrals, and two wells are located near the northern boundary. Several miles of vehicle ways also exist within the WSA boundaries which are used for livestock management and rangeland development maintenance.

CULTURAL RESOURCES

Rock alignments, rock rings, possible intaglios, chipping stations, and possible habitation sites have been found along the bajadas, valleys, and lower slopes of the WSA. The southern, eastern, and northern borders of the WSA are the areas most likely to contain cultural resources. A total of 26,585 acres of the WSA are likely to contain cultural resources (Table S-6). All sites inventoried in the WSA contained evidence of some degree of disturbance. With the exception of the habitation site, most damage appears to have been due to erosion and mining. However, the overall integrity of these sites is still good.

There is also a high probability that historic trails built in the early 20th century through the Gila Bend Mountains may be found here in association with historic temporary camps (Connie Stone, personal communication, 1984). Furthermore, the Gila Bend Mountains were identified as having very high religious and subsistence significance to the Yavapai, Maricopa, Pima, and Papago Indians (Cultural Systems Research, Inc., 1978).

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes and the creosotebush-bursage series on the surrounding plains. The area provides potential habitat for the three special-status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Hiking and hunting are the most frequent recreation activities occurring in the area. Visitor use is low and is estimated to be 200 visitor days/year (Table S-7). This WSA contains 31 miles of vehicle ways. VRM classifications in this WSA include 4,960 acres as Class III and 68,970 acres as Class IV (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows the existing recreation use in this WSA to be 200 visitor days per year with annual recreation expenditures of $764.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenue collected by BLM would amount to $73,930 per year.

North Maricopa Mountains (AZ-020-157)

WILDERNESS VALUES

Location and Boundaries. The North Maricopa Mountains WSA is located along the northern extent of the Maricopa Mountains, approximately 12 miles northeast of Gila Bend, Arizona (Map 2-7).

The WSA is bounded by a 230-kV powerline right-of-way along its western boundary and by a gas pipeline on its northern boundary. Roads and nonfederal minerals form the remaining boundaries.

Size. The North Maricopa Mountains WSA contains 70,468 acres of public land.

Naturalness. The North Maricopa Mountains WSA is predominantly natural. The WSA contains a 10-mile-long portion of the Maricopa Mountains as well as extensive portions of the surrounding desert plain. The mountains in this WSA rise between 1,000 and 2,813 feet from the desert floor. The mountains trend northwest to southeast and their arrangement provides a high degree of topographic complexity. Interspersed with the mountains are several wide valleys narrowing into canyons, which extend to the WSA's center from all sides.

The WSA's north, west, and southwestern portions of the WSA include as much as five miles of desert plain radiating from the mountains. This plain is dissected by numerous washes. Vegetation in these washes consists of creosote, mesquite, and some dense stands of cholla.

The WSA has 35 miles of vehicle ways, several miles of fence, and several rangeland developments. Most of the WSA's vehicle ways extend into the WSA from eight cherrystem roads. All of these imprints, including the cherrystemmed roads, are largely unnoticeable because they are screened by topography and widely scattered across a large area. Neither the individual nor cumulative impacts of these imprints detract from the WSA's naturalness.

The WSA's cherrystem roads extend into the WSA from one-eighth mile to four and a half miles. All roads show signs of continuous use. All the cherrystem roads lie on essentially level valley floors amidst scattered saguaro cactus and creosotebush. The roads are unobtrusive to the hiker, except when directly encountered. Some routes are discernible from the surrounding mountains.

Solitude. Outstanding opportunities for solitude occur throughout most of the WSA. The size of the North Maricopa Mountains WSA is a significant consideration in evaluating opportunities for solitude. The WSA is approximately 10 miles wide by 12 miles long. With the considerable variation of topography present in the WSA, along with the variety of access and destination points, opportunities for outstanding solitude are assured.

Primitive Recreation. The large size, physical challenge, diverse terrain, and scenic vistas provide outstanding opportunities for primitive and unconfined recreation. The many peaks in the Maricopa Mountains offer both physical challenge and unconfined scenic vistas. Wildlife observation and photography opportunities are available throughout the unit, but are especially good in the desert riparian habitats of the washes. Cougar, bobcat, and javelina have been observed in the WSA.

Special Features. The North Maricopa Mountains WSA supports important wildlife habitat and provides 39,280 acres of crucial desert bighorn sheep habitat and 7,050 acres of crucial desert tortoise habitat. Commonly observed wildlife include coyotes, mule deer, bobcat, fox, jackrabbits, cougar, raptors, and Gambel's quail.

MINERALS AND ENERGY

As of September 1984, there were 424 mining claims in this WSA. Geologic structures of Laramide volcanics, intruding Precambrian marine schist, shale, and granite, are capped by recent basaltic flows, which give this area a medium mineral potential and a medium development potential (Table S-4). There is no record of mineral production from this WSA. Granitic building stone has been quarried in the past. There are some mica deposits that could be mined. Parts of this WSA appear to be an ancient basin structure that would be favorable for uranium exploration. There is no evidence of geothermal resources in this WSA. Areas in this WSA that are likely to contain mineral resources are shown on Map 3-7.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitat. It contains 39,280 acres of crucial desert bighorn habitat and 7,050 acres of crucial desert tortoise habitat (Table S-5 and Map 3-15).

LAND USES

The WSA contains 2,560 acres of state owned minerals. There are two rights-of-way for cathodic protection stations within the area. One right-of-way is located in T. 3 S., R. 2 W., Section 14 and the other is located in T. 2 S., R. 3 W., Section 36. The El Paso Natural Gas Company right-of-way forms approximately six miles of the north and northeastern boundary of the study area. A utility corridor is proposed that would extend approximately a half mile into the area where the current El Paso line forms the WSA boundary.

RANGELAND MANAGEMENT

The North Maricopa Mountains WSA consists of portions of four grazing allotments. The WSA overlaps the allotments as follows: Conley—6,400 public acres or seven percent overlap, Hazen—17,560 public acres or 41 percent overlap, Beloat—26,100 or 21 percent overlap, and Bighorn—20,348 public acres or 14 percent overlap.

Rangeland developments within the WSA include three reservoirs, three wells with windmills and corrals, several miles of gap fences, and several miles of vehicle ways used to access the allotments. In addition one reservoir exists on the Beloat allotment in an area of federal surface and nonfederal subsurface located in T. 3 S., R. 2 W., Section 16.

CULTURAL RESOURCES

During BLM's cultural resource inventory, both prehistoric and historic sites were found in the WSA. Site types found include prehistoric rock rings, a lithic procurement area, roasting pits, and isolated artifacts such as metates, manos, sherds, and flakes. Historic resources consist mainly of deteriorated structures or foundations. In addition, a significant rockshelter is located in the unit.

A portion of the Butterfield Stage Route, which was used between September 1858 and March 1861 passes through this WSA. The stage route separates this WSA from the Butterfield Stage Memorial WSA.

Sites located during this survey are predominately situated in the flat basin or lowland gravel terraces near

Desert Bajada With Creosote And Saguaro Plant Cover—North Maricopa Mountains WSA.

washes rather than the steep highlands. Very few noticeable disturbances were recorded on any of these sites. A total of 17,880 acres of this WSA are likely to contain some type of cultural resource (Table S-6).

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes associated with the Maricopa Mountains and the creosotebush-bursage series on the surrounding desert plain. The area provides potential habitat for the following three special-status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

The primary recreation activities occurring in this unit are hiking, hunting, camping, rock collecting, sightseeing, and ORV use. The area is considered a prime use area by a local ORV organization. Visitor use is moderate and is estimated at 1,500 visitor days/year (Table S-7). There are 35 miles of vehicle ways identified in the WSA. Public lands in the WSA have been classified according to BLM's VRM Classification System as 48,708 acres as Class II, 14,720 acres as Class III, and 7,040 acres as Class IV (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows the existing recreation use in this WSA to be 1,500 visitor days per year with annual recreation expenditures of $5,730.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenue collected by BLM would amount to $71,320 per year.

South Maricopa Mountains (AZ-020-163)

WILDERNESS VALUES

Location and Boundaries. Located in Maricopa County eight miles east of Gila Bend, Arizona, this WSA encompasses the South Maricopa Mountains (Map 2-8. The WSA is bordered by roads, private and state land, Interstate 8, the Maricopa Road, and nonfederal mineral ownership.

Size. The WSA contains 71,320 acres of public land.

Naturalness. Human influences in the WSA are largely unnoticeable. The WSA consists of a narrow east-west trending mountain range surrounded by gently rolling desert. Dissecting the desert are numerous washes, which originate in the WSA's mountainous center and radiate to the WSA's boundaries. Valleys are also interspersed throughout the east side of the WSA, creating a varied topographic pattern. The WSA's mountains rise over 2,000 feet above the desert floor to an elevation of 3,272 feet. Vegetation consists of a creosotebush-bursage community with some saguaro on the mountain slopes and in the bajadas and valleys.

The WSA has 9.50 miles of cherrystem roads and 35.25 miles of vehicle ways. Other imprints include several old car bodies, an earthen dike, an old mine, and an area of numerous compacted trails. Neither individually nor cumulatively are these imprints greatly noticeable and therefore they do not detract from the WSA's naturalness.

Solitude. Outstanding opportunities for solitude exist throughout the WSA. The WSA's large size, complex topography, and vegetative screening all contribute to solitude opportunities.

Primitive Recreation. Outstanding opportunities for primitive and unconfined recreation exist in the South Maricopa Mountains. Opportunities for hiking are found in densely vegetated flatter areas as well as on the more difficult rocky mountain slopes Valleys between the desert mountains provide ample space for backpacking. The topographic relief found in this WSA provides the backpacker, horseman, and photographer with a variety of places to explore with a minimal chance of encountering others.

Special Features. Wildlife habitats and cultural resources add to the area's wilderness values. Essentially all the mountainous terrain (42,800 acres) and the intervening valleys are considered crucial bighorn sheep habitat. The southeastern quarter and north-central portions of the WSA contain crucial desert tortoise habitat.

MINERALS AND ENERGY

There are 431 mining claims in this WSA. There are no known mineral occurrences of economical proportions in the WSA. The mineral potential is low (Table S-4), but it is possible and geologically probable that the highly mineralized zone south of the WSA continues into this WSA, but at depth. The potential for development of these minerals is low (Table S-4). Evaporite salts and low grade uranium may occur in the basin regions of this WSA. There are no geothermal resources in the area. Areas in this WSA that are likely to contain mineral resources are shown on Map 3-8.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitats. It contains 42,800 acres of crucial desert bighorn habitat and 17,830 acres of crucial tortoise habitat (Table S-5 and Map 3-16). Javelina are also known to inhabit the WSA.

LAND USES

There are no existing or pending rights-of-way in the WSA. The Interstate 8 right-of-way forms approximately 13.5 miles of the southern boundary, and there is a proposed utility corridor along the right-of-way that would extend a half mile into the WSA for 13.5 miles.

RANGELAND MANAGEMENT

The South Maricopa Mountains WSA consists of portions of three grazing allotments. The WSA overlaps the allotments as follows: Bighorn—39,480 public acres or 26 percent overlap, Conley—22,400 public acres or 24 percent overlap, and Lower Vekol—9,440 public acres or 43 percent overlap.

Rangeland developments within the WSA include two reservoirs, several miles of fence, and several miles of vehicle ways. All rangeland developments are accessed by vehicle ways.

CULTURAL RESOURCES

During BLM's cultural resource inventory, isolated sherds, lithics, and a rock alignment were recorded in the WSA. Resources located were predominately situated in flat basins or on lowland gravel terraces near washes. Very few noticeable disturbances were recorded for any of these sites. The lower elevations throughout

the central portion of the unit (14,040 acres) are considered to have a high probability of containing cultural resources (Table S-6). Furthermore, the Maricopa Mountains were identified as having significance to the Pima, Sand Papago, and Maricopa Indians (Cultural Systems Research, Inc., 1978).

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes and upper bajadas and the creosotebush-bursage series on the surrounding desert plains. The area provides potential habitat for three special status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

Recreation use occurring in the unit includes hiking, hunting, camping, rock collecting, ORV use, and sightseeing. Visitor use is estimated to be low at 300 visitor days/year (Table S-7). There are 35.3 miles of vehicle ways in this WSA. Public lands in the WSA have been classified according to the BLM VRM Classification System as 47,960 acres as Class II, 9,760 acres as Class III, and 13,600 acres as Class IV (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of the existing recreation use for this WSA to be 300 visitor days per year with annual recreation expenditures of $1,146.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenue collected by BLM would amount to $71,320 per year.

Butterfield Stage Memorial (AZ-020-164)

WILDERNESS VALUES

Location and Boundaries. Situated in Maricopa County, this WSA lies 15 miles east of Gila Bend and encompasses the southern tip of the North Maricopa Mountains (Map 2-7). A flood diversion channel and roads form the WSA's border.

Size. The WSA contains 9,566 acres of public land.

Naturalness. The WSA's mountainous center consists of valleys and steep highly dissected ridges. Large alluvial plains are found on the western and southern sides of the WSA.

Vegetation consists of a paloverde-saguaro community with an abundance of saguaro and cholla cacti. Within the valley areas, the dominant plants are saguaro, cholla, and triangle bursage. Creosotebush prevails on the plains and blue paloverde and ironwood dominate the washes.

The WSA has 8.5 miles of vehicle ways, one mile of fence, and several cattle trails. Neither the individual nor the cumulative impacts of these imprints are highly noticeable, and the impacts only slightly detract from the area's naturalness. Several of the vehicle ways, however, do show signs of frequent use.

Solitude. The WSA's diversity of terrain and vegetation combine to provide outstanding opportunities for solitude, but only for a limited number of visitors. Solitude opportunities are affected by the area's small size and rugged topography. The steep terrain requires visitors to use a few major wash areas to access the WSA's higher ridgelines. This channeling effect, along with the area's small size, could result in increased visitor contacts and a loss of solitude opportunities.

Primitive Recreation. Opportunities for primitive and unconfined recreation are not outstanding because they are confined by the WSA's small size. The WSA offers no opportunity for extensive backcountry travel.

Special Features. Wildlife habitats and cultural resources contribute to the WSA's wilderness values. The WSA contains 6,310 acres of crucial bighorn sheep habitat and 2,870 acres of crucial desert tortoise habitat. The relatively flat western part of the WSA (4,480 acres) is considered culturally sensitive, with prehistoric rockshelters, rock rings and habitation sites. The historic Butterfield Stage Route forms the northern boundary of the WSA.

MINERALS AND ENERGY

As of September 1984 there were 88 mining claims in this WSA. Geologic structures of Laramide volcanics, intruding Precambrian marine schist, shale, and granite, are capped by recent basaltic flows, which give this area a low potential for minerals. There is no record of mineral production from this WSA. The potential for development of these minerals is also rated as low (Table S-4). Granitic building stone has been quarried in the past. There are some mica deposits that could be mined. There is no evidence of geothermal resources in this WSA. Areas in the WSA that are likely to contain mineral resources are shown on Map 3-7.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitat. It contains 6,310 acres of crucial desert bighorn habitat and 2,870 acres of crucial tortoise habitat (Table S-5 and Map 3-15).

LAND USES

No state or private inholdings or split estate areas are within the WSA. There are no rights-of-way or proposed utility corridors that would affect the area.

RANGELAND MANAGEMENT

The Butterfield Stage Memorial WSA consists of small portions of two perennial-ephemeral grazing allotments. The WSA overlaps the allotments as follows: Bighorn—6,366 public acres or four percent overlap and Conley—3,200 public acres or three percent overlap. No livestock waters, corrals, or other rangeland developments, except fences, exist within the WSA.

CULTURAL RESOURCES

During BLM's cultural resource inventory, site types recorded include a prehistoric rock ring, a roasting pit, and isolated pot busts. The Butterfield Stage Route separates this WSA from the North Maricopa Mountains WSA. The route was used between September 1858 and March 1861.

The relatively flat western third of the unit (4,480 acres) has a high probability of containing rockshelters, rock rings, and historic trail sites of limited activity (Table S-6).

PROTECTED PLANTS

Vegetation characteristic of the Sonoran desertscrub biotic community (Brown, 1982) occurs throughout the WSA with the paloverde-mixed cacti series on the slopes and upper bajadas. The area provides potential habitat for the following three special-status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCES (VRM)

Recreation use occurring in the unit includes hiking, ORV use, sightseeing, camping, and photography. Extensive hiking and camping occurs along the Butterfield Stage Route. This area is considered a prime use area by a local ORV organization. Visitor use in the area is estimated to be 2,000 visitor days/year (Table S-7). There are 8.5 miles of identified vehicle ways in the WSA. Public lands in the WSA have been classified according to BLM's VRM Classification System as 9,246 acres as Class II and 320 acres as Class III (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of the existing recreation use for this WSA to be 2,000 visitor days per year with annual recreation expenditures of $7,640.

Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in this WSA were leased and the amount that would potentially be returned to the state each year. The lease revenue collected by BLM would amount to $9,566 per year.

Table Top Mountains (AZ-020-172)

WILDERNESS VALUES

Location and Boundaries. The Table Top Mountains WSA is 45 miles south of Phoenix and 20 miles west of Casa Grande, Arizona (Map 2-9). The WSA is bounded primarily by Interstate 8 on the north, roads on the east and west, and by the Papago Reservation on the south.

Size. The WSA contains 37,968 acres of public land.

Naturalness. The Table Top Mountains are a rugged range with several peaks over 3,500 feet, the most notable being the 4,373-foot Table Top Peak, which dominates the topography of the WSA. Steeply rising flat-topped mountains, surrounding ridges, and deep, wide canyons provide topographic diversity not found elsewhere. Broad bajadas are found on the area's west side.

A dense paloverde-saguaro vegetation community with associated stands of prickly pear and cholla cacti covers most of the WSA. The washes are densely vegetated with species such as ironwood and mesquite.

The WSA's imprints, include 27 miles of vehicle way, two small livestock reservoirs, a water tank, a canal, a fenceline, and a small stone foundation. These imprints are widely scattered and are screened by terrain and dense vegetation. The WSA's human imprints are insignificant and neither individually nor in combination detract from the area's naturalness.

Solitude. The Table Top Mountain WSA contains outstanding opportunities for solitude. The diverse ridges and peaks surrounding Table Top Mountain create numerous sheltered ravines. The WSA's relatively dense plant cover and large size greatly enhance opportunities for solitude. Also, due to the variety of access routes and destination points, the WSA could easily absorb several parties of users without a decrease in solitude opportunities.

The caliber of solitude opportunities might be lessened by visitors noticing a commercial facility along Interstate 8 and by vehicles traveling along a cherrystem road that reaches the WSA's center.

Primitive and Unconfined Recreation. Table Top Mountain WSA's large size and rugged terrain offer outstanding opportunities for primitive and unconfined recreation. Hikers and backpackers would be attracted by the WSA's natural character. A hike to Table Top Mountain would offer visitors excellent vistas of southwestern Arizona and also opportunities to study a unique desert grassland.

Special Features. The Table Top Mountains feature an undisturbed 40-acre island of desert grassland. The Arizona Academy of Science recognizes the research potential of this area and has proposed Table Top Mesa as a Natural Area (Smith, 1976).

Over 22,780 acres of the Table Top Mountains are crucial bighorn sheep habitat and 5,700 acres are crucial desert tortoise habitat. Wildlife found throughout the

Sonoran Desert Plants And Table Top Mountain—Table Top Mountains WSA

WSA include coyotes, quail, raptors, and javelina. The Table Top Mountains also have cultural resource value with nine known prehistoric sites.

MINERAL AND ENERGY

There are 149 mining claims within or adjacent to the WSA. The WSA is rated high in mineral potential (Table S-4). The mineralization is more diverse and more concentrated than in any of the other WSAs studied in this supplement. Copper, gold, lead, silver, zinc, manganese, and iron have been mined. An unusually low silica, high alumina basalt has been located in the area. Tantalum associated with iron has been located by exploration geologists. The presence of hydrothermal mineralization has been found in several localities of the WSA. Concentrations of mineralization have been identified along the strike of nine known mapped faults within the WSA. A series of six intersecting faults are particularly high in mineral concentration. Mid-tertiary intrusives are numerous. Most of the area was subjected to recent basaltic volcanism that enhanced the mineralization. The potential for the future development of these minerals is rated medium (Table S-4). Fluorspar, perlite, and building stone have been located in the area. No known uranium occurrences exist in the WSA.

Known geothermal areas abound around the WSA. Areas in the WSA that are likely to contain mineral or geothermal resources are shown in Map 3-9.

WILDLIFE

The area is composed of paloverde-mixed cacti and creosotebush-bursage habitat. It contains 22,780 acres of crucial desert bighorn habitat and 5,700 acres of crucial tortoise habitat (Table S-5 and Map 3-17). Javelina and disjunct populations of the giant spotted whiptail and Ajo Mountain whipsnake are known to inhabit the WSA.

LAND USES

There are 640 acres of split estate in the WSA where the state owns the minerals. There are no existing or pending rights-of-way or proposed utility corridors that would affect the WSA.

RANGELAND MANAGEMENT

The Table Top Mountains WSA encompasses portions of three perennial-ephemeral grazing allotments. The WSA overlaps the allotments as follows: Table Top—17,920 public acres or 50 percent overlap, South Vekol—11,520 public acres or 23 percent overlap, and Vekol—8,528 public acres or 41 percent overlap.

Rangeland developments within the WSA boundary include two reservoirs and five miles of fence. Several vehicle ways provide access to the waters and game catchments.

CULTURAL RESOURCES

A BLM cultural resource inventory identified 14,795 acres as having a high probability of containing cultural resources (Table S-6). Nine prehistoric sites (Hohokam villages, rock rings, roasting pits, and one pot bust) were found. These sites are located along the washes in the flat basins or bajadas encircling Antelope Peak and the Table Top Mountains.

The overall integrity of all the recorded sites remains high, although some disturbance from mining and ORV activities has occurred. Since access into this WSA is not readily available, it is probable that the sites will remain in good condition.

PROTECTED PLANTS

Vegetation on the slopes of the Table Top Mountains is the paloverde-mixed cacti series of the Sonoran desertscrub biotic community (Brown, 1982). Of particular interest are those plants with more southern floristic affinities that occur in the Table Top Mountains. Species such as *Acleisanthes longiflora* (angel trumpet), *Croton sonorae, Haplophyton crooksii* (cockroach plant), and *Ayenia microphylla* approach the northern extent of their distribution in this area. Relict individuals of *Quercus turbinella* and *Juniperus erythrocarpa* are reported from protected sites near the summit of Table Top (Brown 1978). The summit of Table Top is a small mesa of approximately 40 acres that supports an isolated scrub-grassland community. The Arizona Academy of Science recognizes the research potential of this area and has proposed Table Top Mesa as a Natural Area (Smith 1976).

The WSA also provides potential habitat for three special status plant species: *Colubrina californica, Selaginella eremophila,* and *Peniocereus greggii.*

RECREATION AND VISUAL RESOURCE MANAGEMENT (VRM)

The WSA is currently used for a variety of recreational pursuits: hiking, hunting, camping, rock collecting, ORV use, and sightseeing. Visitor use is estimated

to be 1,000 visitor days/year (Table S-7). There are 27 miles of vehicle ways identified in this WSA. Public lands in the WSA have been classified according to the BLM VRM Classification System as 26,928 acres as Class II, 6,880 acres as Class III, and 4,160 acres as Class IV (Table S-8).

ECONOMIC CONDITIONS

Recreation Economics. Table S-7 shows an estimate of the existing recreation use for this WSA to be 1,000 visitor days per year with annual recreation expenditures of $3,820.

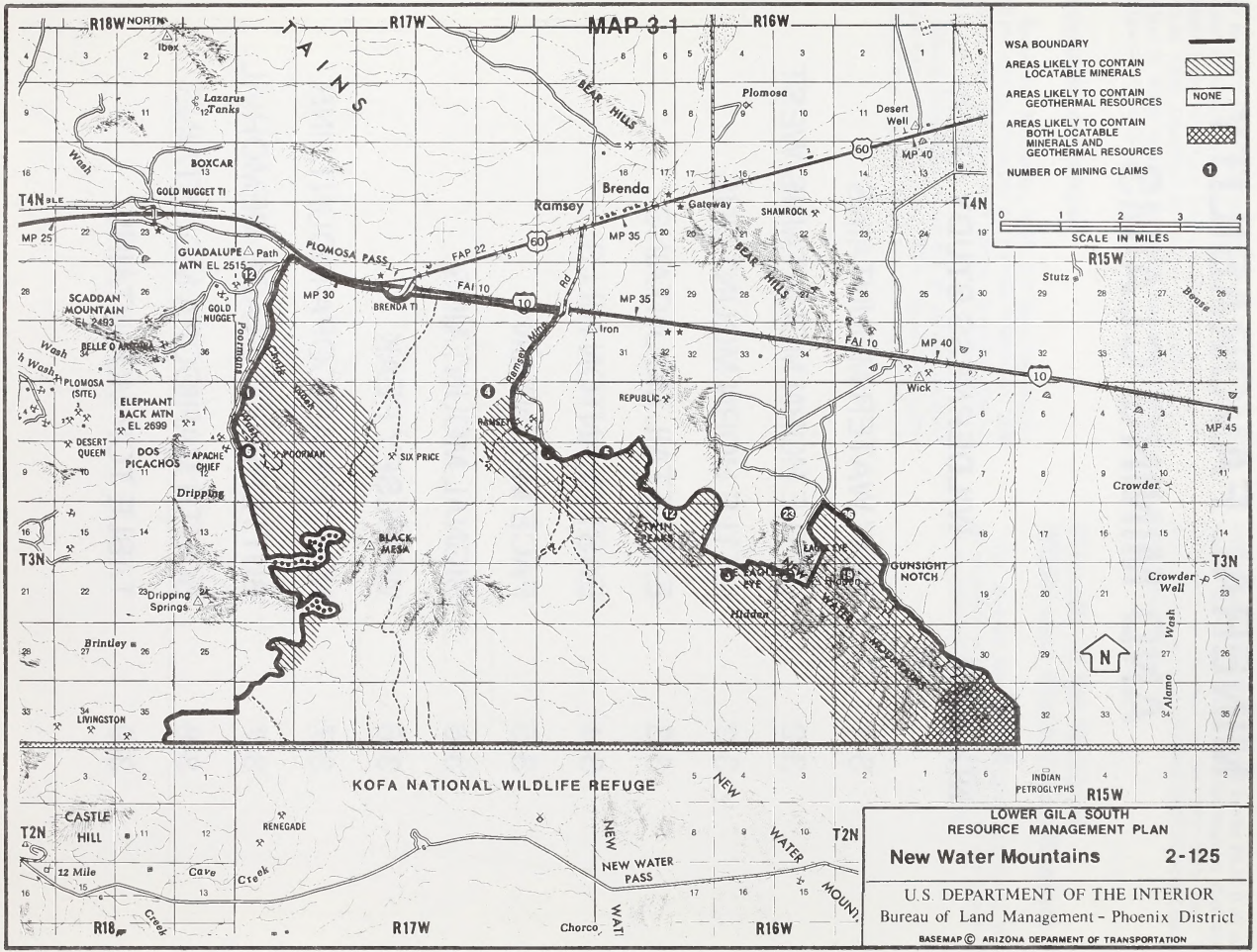
Mineral Economics. A number of oil and gas leases have been established in this WSA, but to date no production has occurred. Table S-9 shows potential lease revenues that would be collected by the BLM if all acres in that WSA were leased and the amount that would potentially be returned to the state each year. The potential lease revenue collected by BLM would amount to $37,968 per year.

Diversity in the National Wilderness Preservation System

The diversity elements associated with the 12 WSAs are described in detail in Chapter 3 of the Lower Gila South RMP/EIS and in Appendix 16.

MINERAL FAVORABILITY AND MINING CLAIMS

MAP NUMBER	WILDERNESS STUDY AREA
3-1	NEW WATER MOUNTAINS
3-2	LITTLE HORN MOUNTAINS-WEST
3-2	LITTLE HORN MOUNTAINS
3-3	EAGLETAIL MOUNTAINS
3-4	EAST CLANTON HILLS
3-5	FACE MOUNTAIN
3-6	SIGNAL MOUNTAINS
3-6	WOOLSEY PEAK
3-7	NORTH MARICOPA MOUNTAINS
3-7	BUTTERFIELD STAGE MEMORIAL
3-8	SOUTH MARICOPA MOUNTAINS
3-9	TABLE TOP MOUNTAINS



LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

New Water Mountains 2-125

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District

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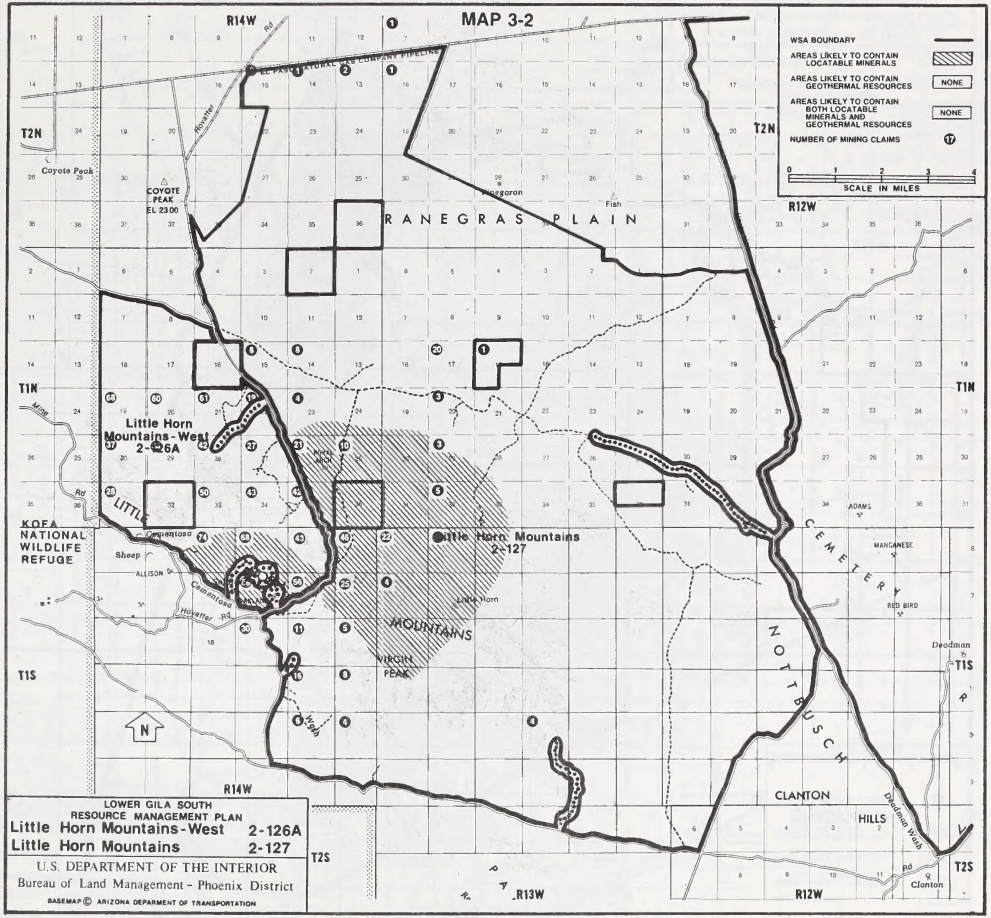
MAP 3-2
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
NONE
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NONE
NUMBER OF MINING CLAIMS
17
0 1 2 3 4
SCALE IN MILES
R14W
R12W
R13W
T2N
T1N
T1S
T2S
EL PASO NATURAL GAS COMPANY PIPELINE
Coyote Peak
COYOTE PEAK EL 2300
Hovatter Rd
Hovatter
Wagoron
Fish
RANEGRAS PLAIN
Little Horn Mountains - West 2-126A
Little Horn Mountains 2-127
Mine
Rd
LITTLE
KOFA NATIONAL WILDLIFE REFUGE
Cemetoso
Sheep
ALLISON
Cemetoso Rd
Hovatter Rd
MOUNTAINS
VIRGIN PEAK
Little Horn
Wash
N
CEMETERY
MANGANESE
ADAMS
RED BIRD
NOTTBUSCH
HILLS
CLANTON
Deadman Wash
Deadman
Clanton
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Little Horn Mountains - West 2-126A
Little Horn Mountains 2-127
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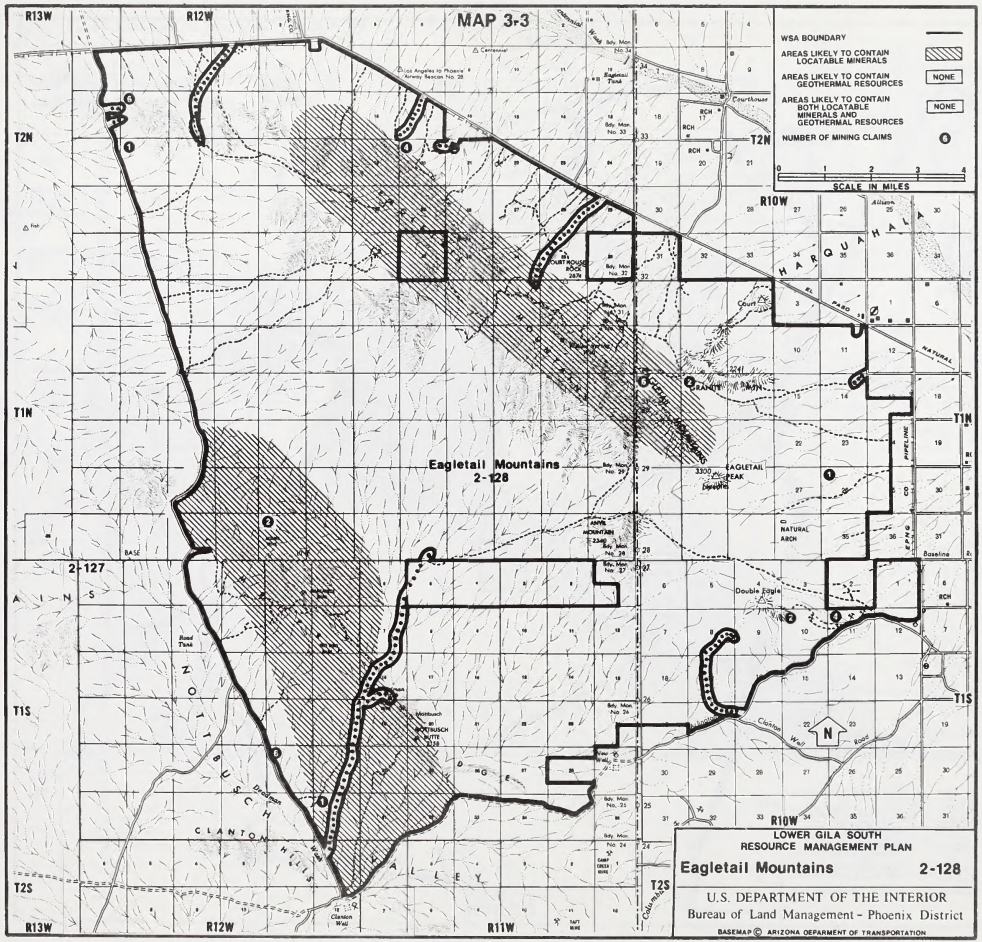
MAP 3-3
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
NONE
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NONE
NUMBER OF MINING CLAIMS
0
SCALE IN MILES
Eagletail Mountains
2-128
2-127
R13W
R12W
R11W
R10W
T2N
T1N
T1S
T2S
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Eagletail Mountains 2-128
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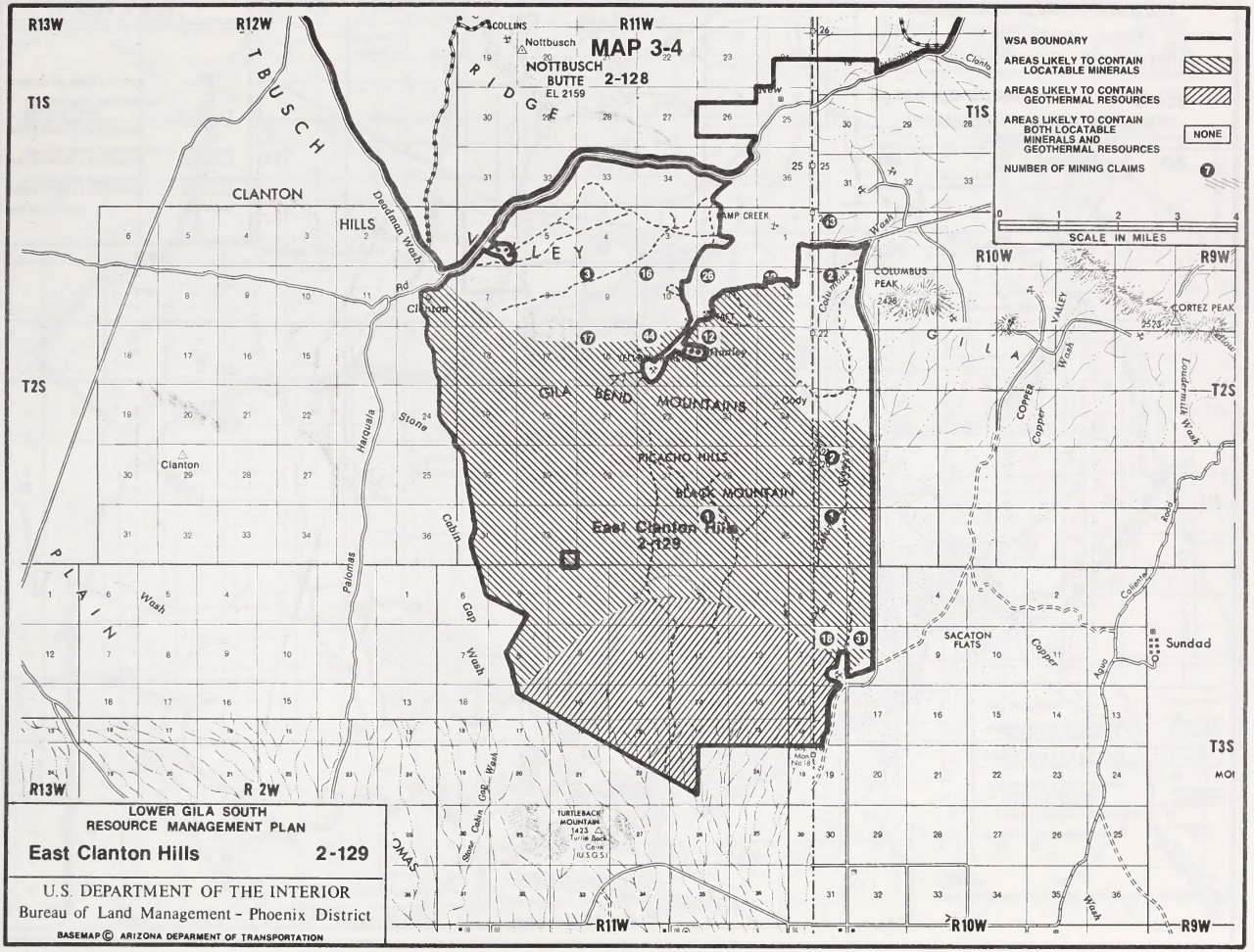
MAP 3-4
NOTTBUSCH BUTTE 2-128
EL 2159
EAST CLANTON HILLS 2-129
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NONE
NUMBER OF MINING CLAIMS
SCALE IN MILES
R13W
R12W
R11W
R10W
R9W
T1S
T2S
T3S
CLANTON HILLS
GILA BEND MOUNTAINS
PEACHO HILLS
BLACK MOUNTAIN
SACATON FLATS
COLUMBUS PEAK
CORTEZ PEAK
CAMP CREEK
Nottbusch
Clanton
Sundad
Deadman Wash
Haquala
Palomas
Cabin
Stone
Copper
Aqua
Coleman
Loudermilk
Redington
Oddy
Turtleback Mountain
1423
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
East Clanton Hills 2-129
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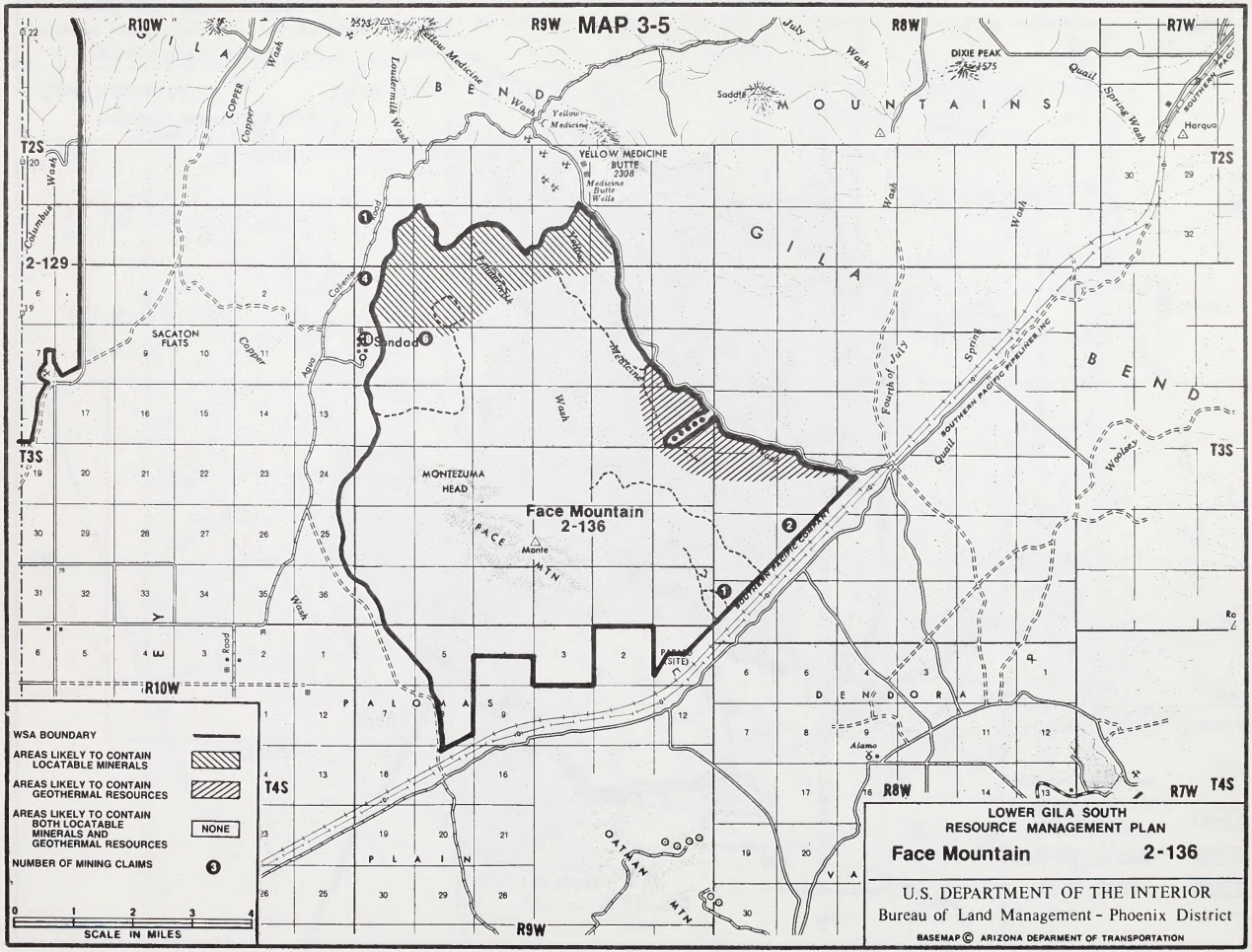
MAP 3-5
R10W
R9W
R8W
R7W
T2S
T3S
T4S
2-129
Face Mountain
2-136
MONTEZUMA HEAD
SACATON FLATS
YELLOW MEDICINE BUTTE 2308
DIXIE PEAK 3575
Saddle
Harquahala
Sandad
Alamo
PARKER (SITE)
SOUTHERN PACIFIC PIPELINES INC
SOUTHERN PACIFIC COMPANY
Yellow Medicine Wash
Copper Wash
Columbus Wash
Fourth of July Wash
Quail Spring Wash
Workman Wash
Face Mtn
Oatman Mtn
G I L A
B E N D
M O U N T A I N S
P L A I N
D E N D O R A
V A
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NONE
NUMBER OF MINING CLAIMS
0 1 2 3 4
SCALE IN MILES
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Face Mountain 2-136
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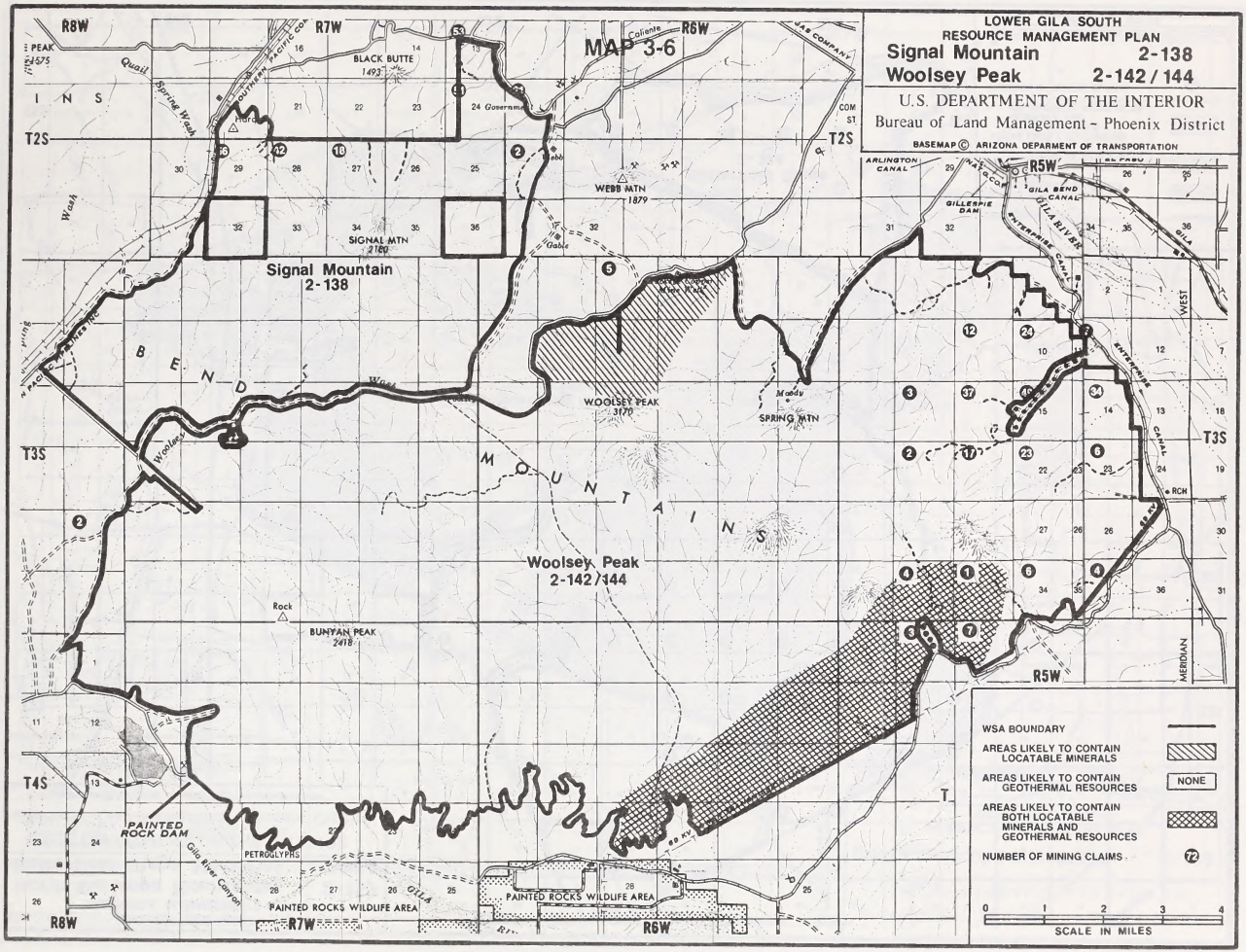
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Signal Mountain 2-138
Woolsey Peak 2-142 / 144
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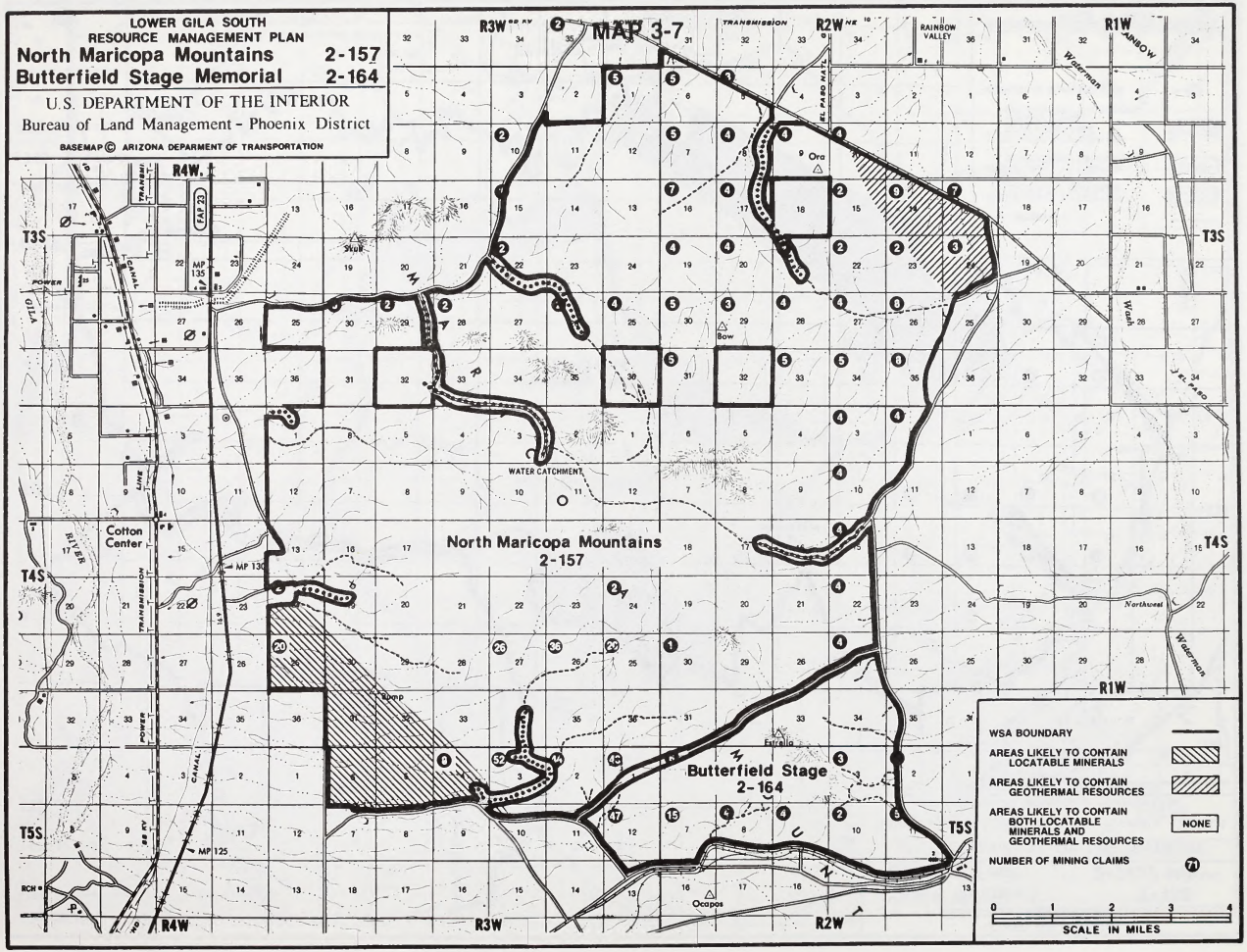
MAP 3-6
Signal Mountain
2-138
Woolsey Peak
2-142/144
BLACK BUTTE
1493
WEBB MTN
1879
SIGNAL MTN
2160
WOOLSEY PEAK
3170
SPRING MTN
BUNYAN PEAK
2418
PAINTED ROCK DAM
PETROGLYPHS
PAINTED ROCKS WILDLIFE AREA
PAINTED ROCKS WILDLIFE AREA
GILLESPIE DAM
GILA BEND CANAL
ENTERPRISE CANAL
ARLINGTON CANAL
MOUNTAINS
R8W
R7W
R6W
R5W
T2S
T3S
T4S
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
NONE
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NUMBER OF MINING CLAIMS
0 1 2 3 4
SCALE IN MILES


LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
North Maricopa Mountains 2-157
Butterfield Stage Memorial 2-164
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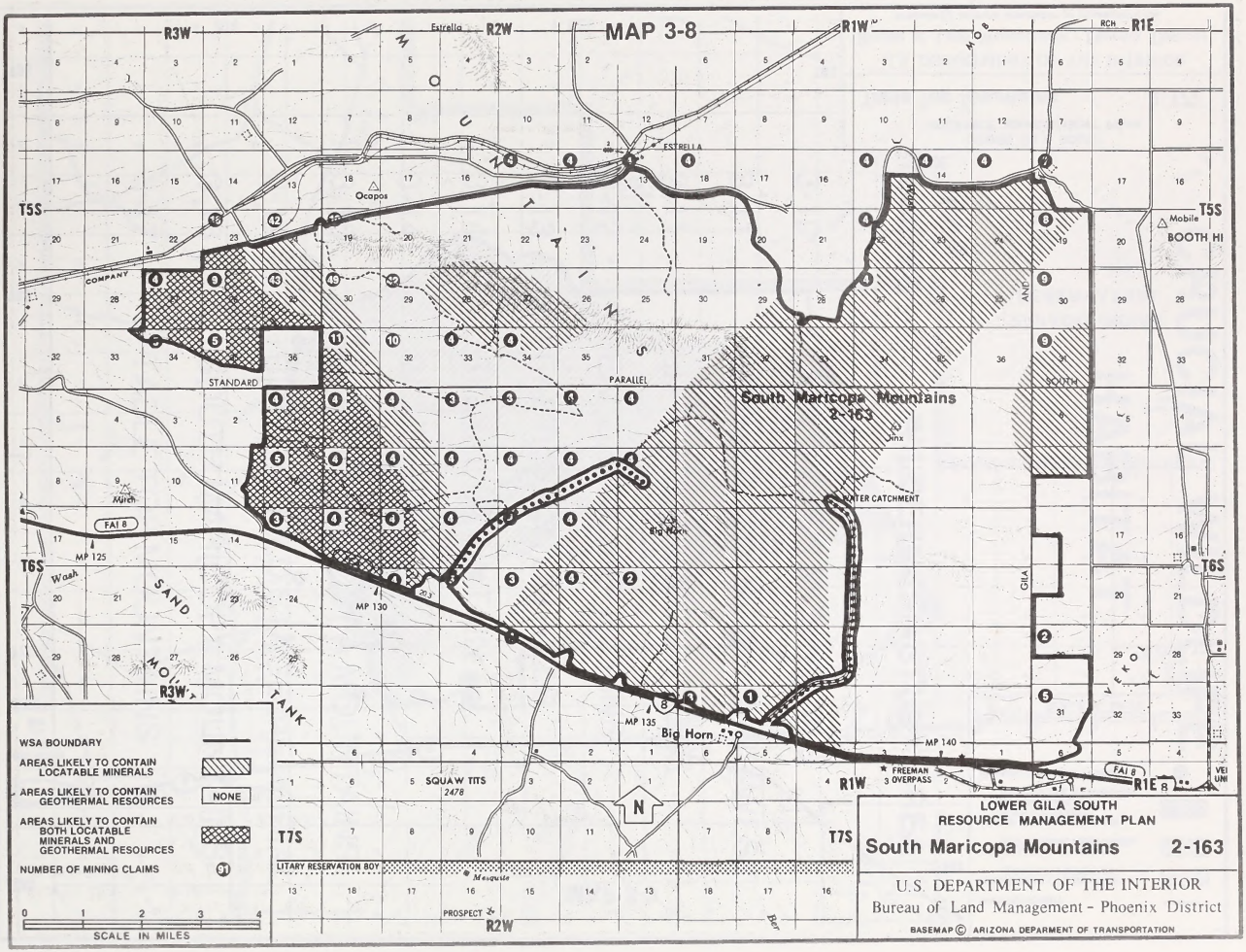
MAP 3-7
North Maricopa Mountains
2-157
Butterfield Stage
2-164
WATER CATCHMENT
Cotton Center
Ora
Bow
Skull
Ocapos
Estrella
Rainbow Valley
R4W
R3W
R2W
R1W
T3S
T4S
T5S
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NONE
NUMBER OF MINING CLAIMS
SCALE IN MILES
0 1 2 3 4


MAP 3-8
South Maricopa Mountains
2-163
WSA BOUNDARY
AREAS LIKELY TO CONTAIN LOCATABLE MINERALS
AREAS LIKELY TO CONTAIN GEOTHERMAL RESOURCES
NONE
AREAS LIKELY TO CONTAIN BOTH LOCATABLE MINERALS AND GEOTHERMAL RESOURCES
NUMBER OF MINING CLAIMS
SCALE IN MILES
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
South Maricopa Mountains 2-163
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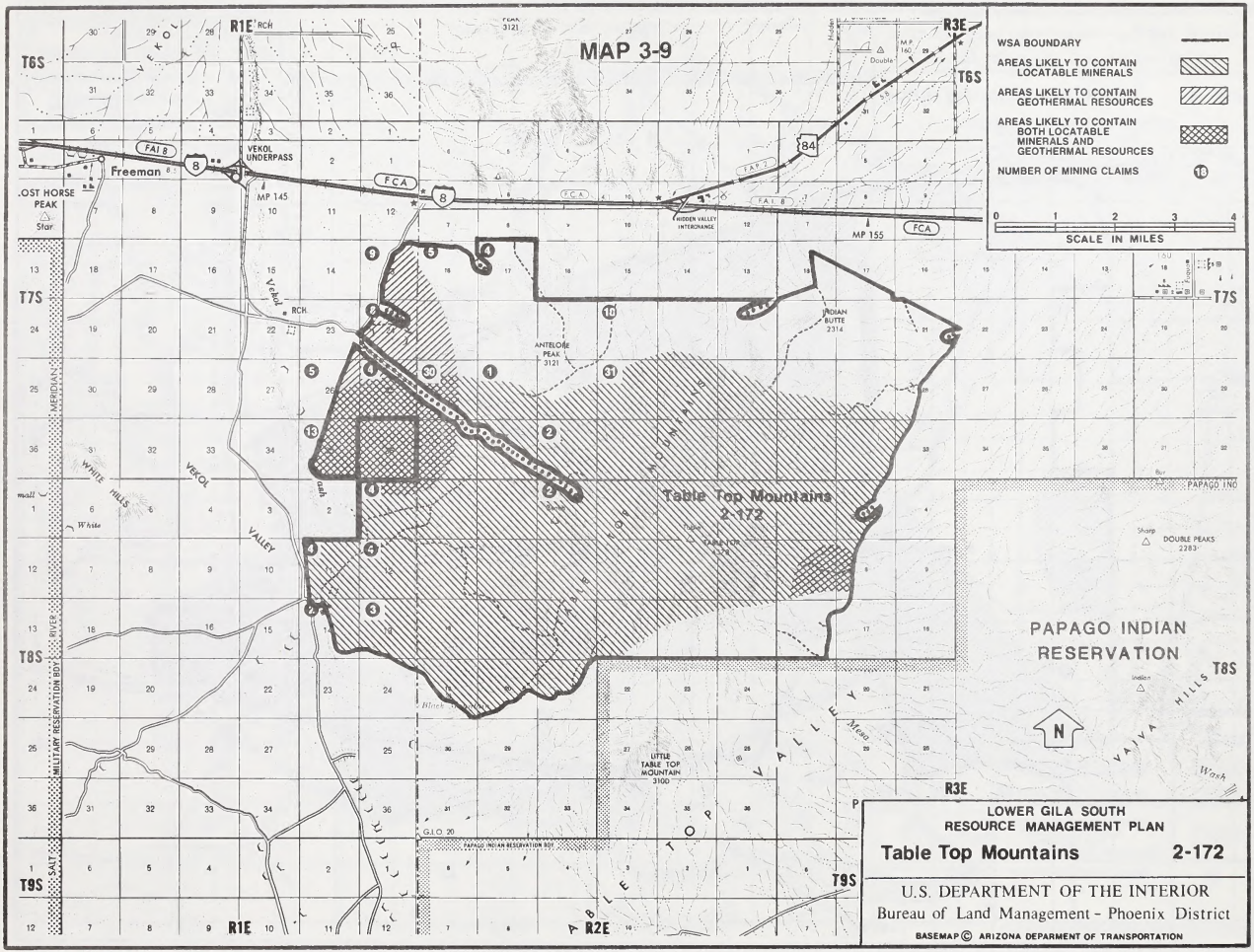

LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

Table Top Mountains **2-172**

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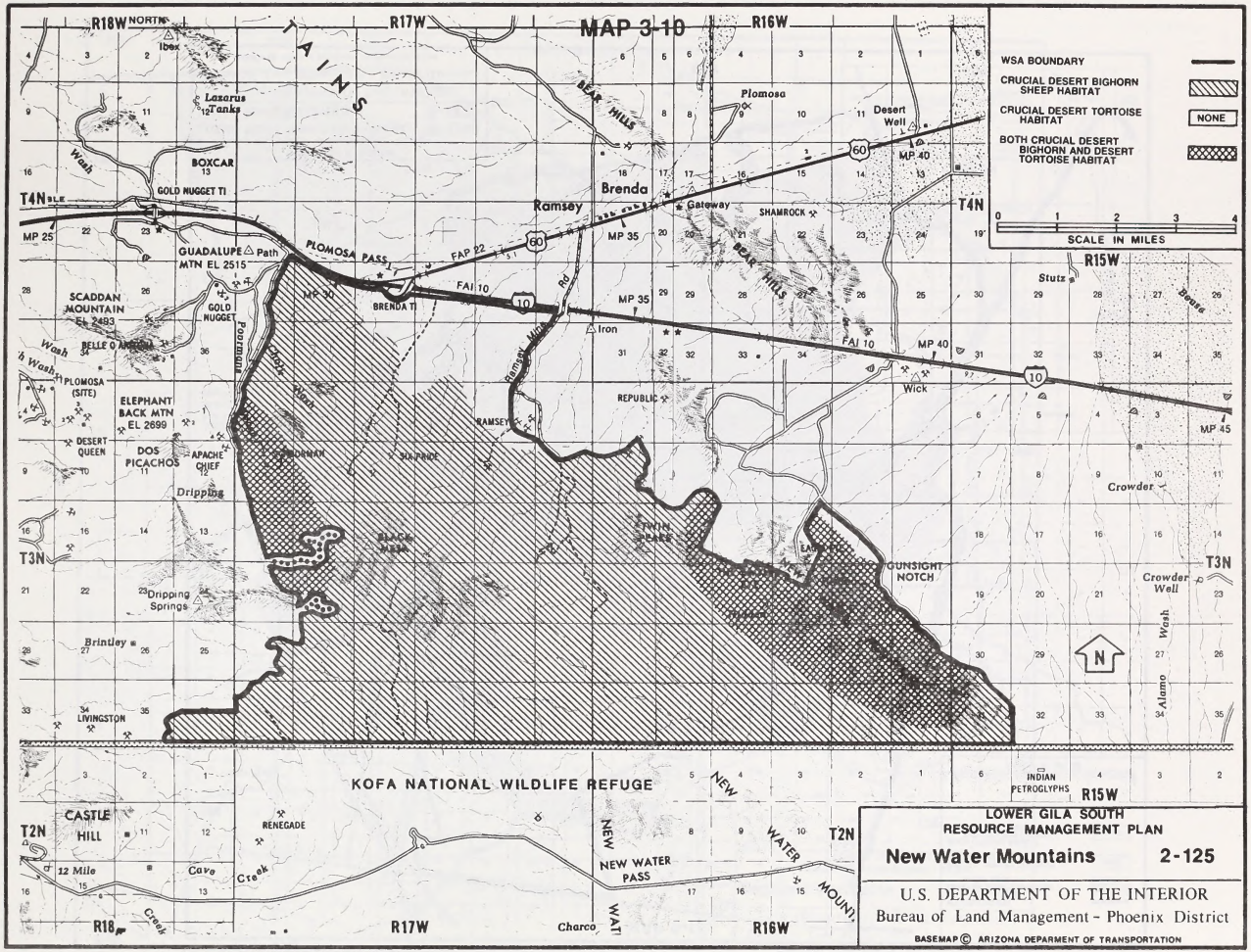
CRUCIAL WILDLIFE HABITAT

MAP NUMBER	WILDERNESS STUDY AREA
3-10	NEW WATER MOUNTAINS
3-11	LITTLE HORN MOUNTAINS-WEST
3-11	LITTLE HORN MOUNTAINS
3-12	EAGLETAIL MOUNTAINS
3-13	EAST CLANTON HILLS
3-14	SIGNAL MOUNTAIN
3-14	WOOLSEY PEAK
3-15	NORTH MARICOPA MOUNTAINS
3-15	BUTTERFIELD STAGE MEMORIAL
3-16	SOUTH MARICOPA MOUNTAINS
3-17	TABLE TOP MOUNTAINS



LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

New Water Mountains 2-125

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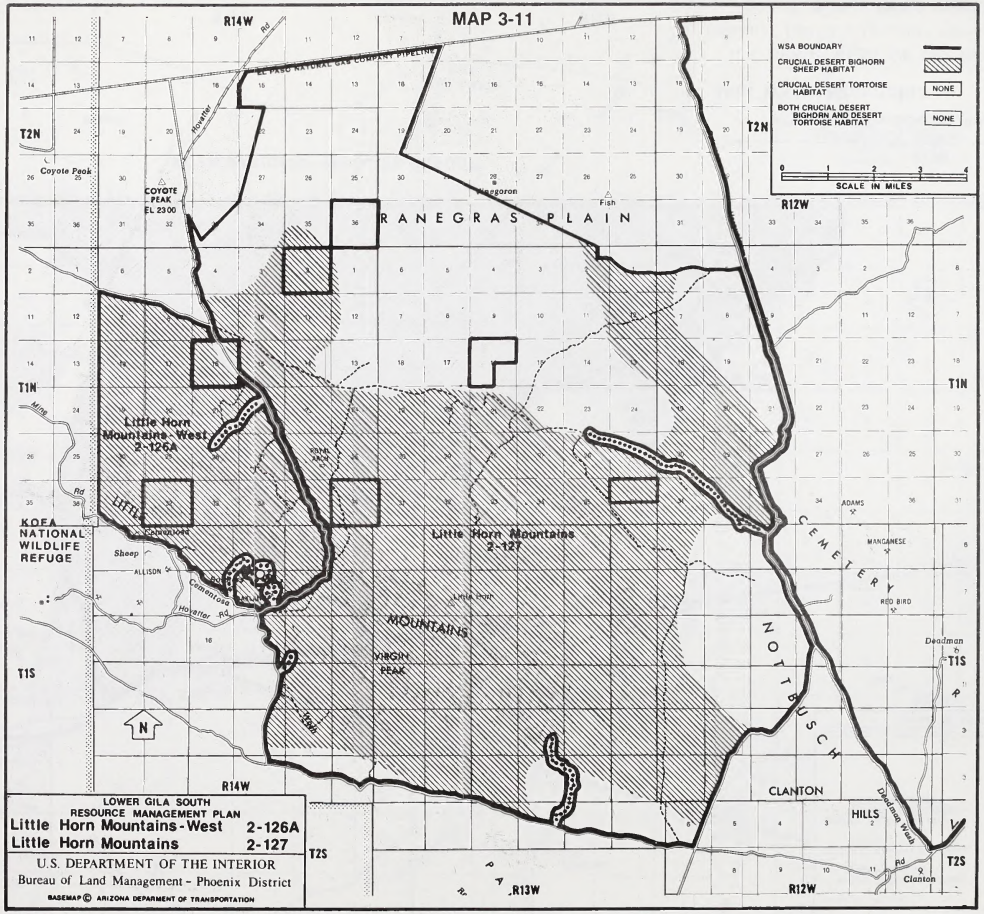
MAP 3-11
WSA BOUNDARY
CRUCIAL DESERT BIGHORN SHEEP HABITAT
CRUCIAL DESERT TORTOISE HABITAT
NONE
BOTH CRUCIAL DESERT BIGHORN AND DESERT TORTOISE HABITAT
NONE
0 1 2 3 4
SCALE IN MILES
EL PASO NATURAL GAS COMPANY PIPELINE
COYOTE PEAK EL 2300
RANEGRAS PLAIN
Little Horn Mountains - West 2-126A
Little Horn Mountains 2-127
KOFA NATIONAL WILDLIFE REFUGE
MOUNTAINS
VIRGIN PEAK
NOTTBUSCH
CLANTON HILLS
CEMETERY
ADAMS
MANGANESE
RED BIRD
Deadman Wash
Clanton
R14W
R13W
R12W
T2N
T1N
T1S
T2S
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Little Horn Mountains - West 2-126A
Little Horn Mountains 2-127
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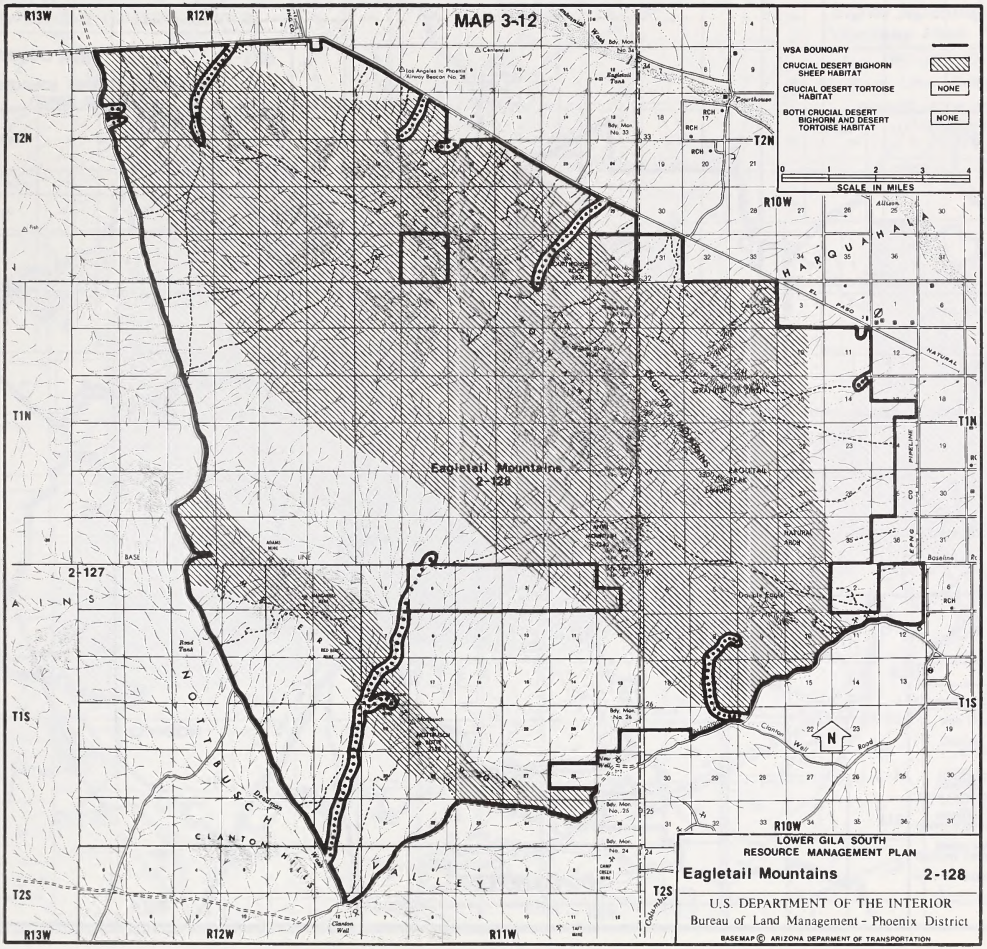
MAP 3-12
WSA BOUNDARY
CRUCIAL DESERT BIGHORN SHEEP HABITAT
CRUCIAL DESERT TORTOISE HABITAT
NONE
BOTH CRUCIAL DESERT BIGHORN AND DESERT TORTOISE HABITAT
NONE
0 1 2 3 4
SCALE IN MILES
Eagletail Mountains
2-128
2-127
R13W
R12W
R11W
R10W
T2N
T1N
T1S
T2S
HARQUAHALA
EAGLETAIL MOUNTAINS
EAGLETAIL PEAK
ELLIOTT MOUNTAIN
NOTTBUSCH DRAW
CLANTON HILLS
CLANTON WELL
ROAD
PIPELINE
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Eagletail Mountains 2-128
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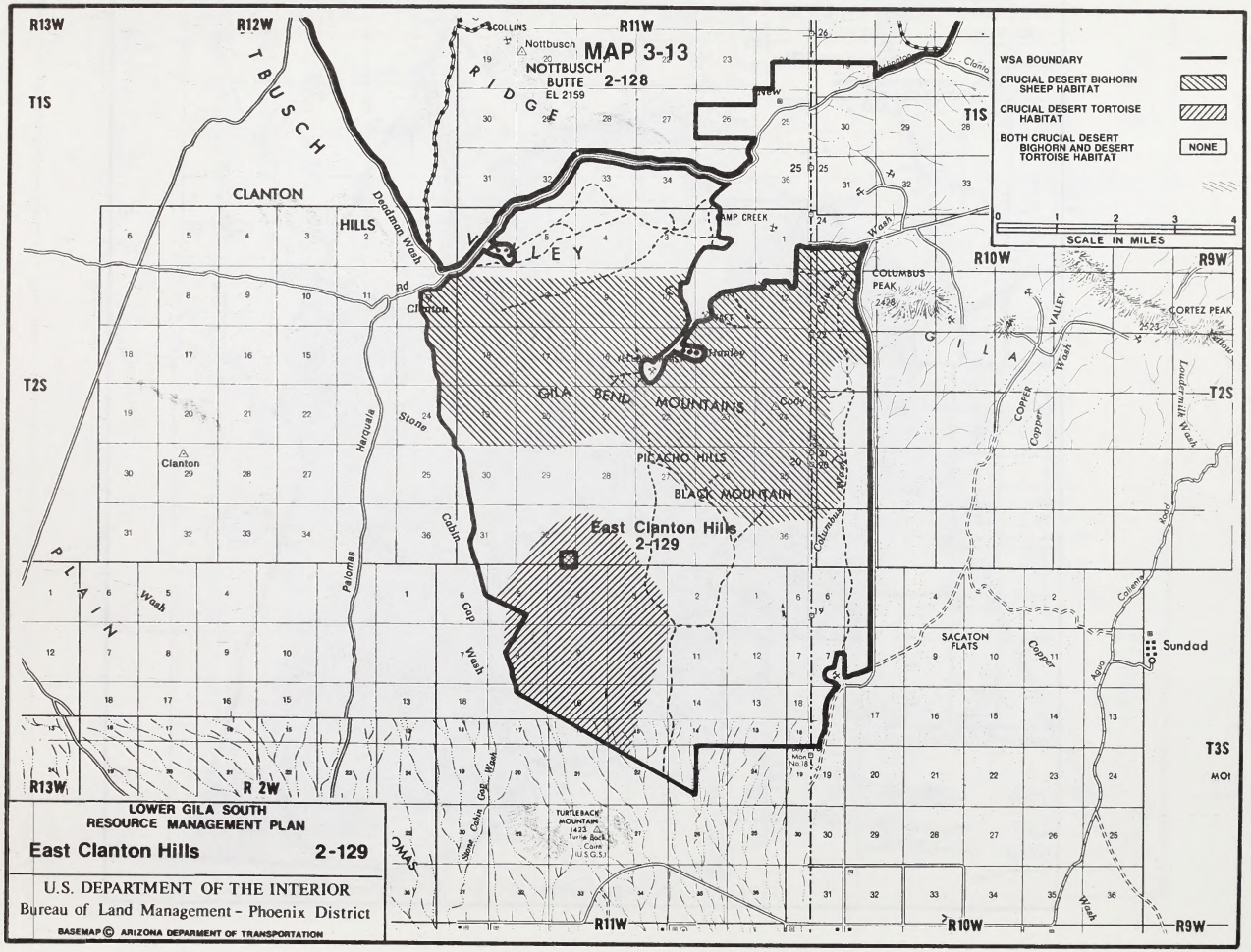
MAP 3-13
NOTTBUSCH BUTTE 2-128
EL 2159
East Clanton Hills 2-129
WSA BOUNDARY
CRUCIAL DESERT BIGHORN SHEEP HABITAT
CRUCIAL DESERT TORTOISE HABITAT
BOTH CRUCIAL DESERT BIGHORN AND DESERT TORTOISE HABITAT
NONE
SCALE IN MILES
0 1 2 3 4
R13W
R12W
R11W
R10W
R9W
T1S
T2S
T3S
CLANTON HILLS
GILA BEND MOUNTAINS
PICACHO HILLS
BLACK MOUNTAIN
SACATON FLATS
COLUMBUS PEAK
CORTEZ PEAK
TURTLEBACK MOUNTAIN
Sundad
Clanton
Nottbusch
Tbusch Ridge
Valley
Gila
Plain
Deadman Wash
Stone Cabin Gap Wash
Palomas
Hercules
Copper Valley
Copper Wash
Loudermilk Wash
Columbus Wash
Agua Caliente Wash
Camp Creek
Frenchy
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
East Clanton Hills 2-129
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District
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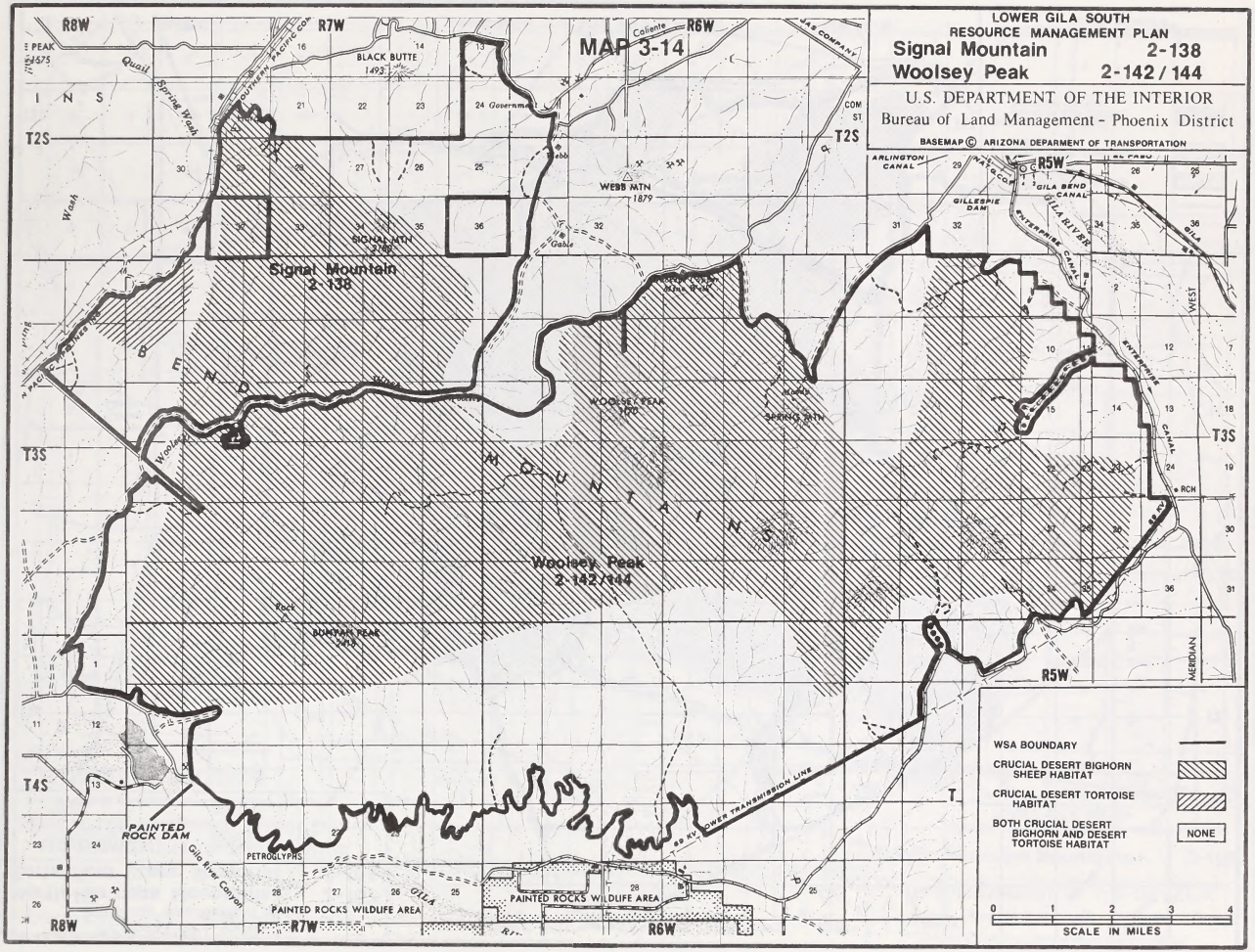
MAP 3-14
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Signal Mountain 2-138
Woolsey Peak 2-142 / 144
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Bureau of Land Management - Phoenix District
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Signal Mountain
2-138
Woolsey Peak
2-142/144
BUCKSKIN MOUNTAINS
BEND
WSA BOUNDARY
CRUCIAL DESERT BIGHORN SHEEP HABITAT
CRUCIAL DESERT TORTOISE HABITAT
BOTH CRUCIAL DESERT BIGHORN AND DESERT TORTOISE HABITAT
NONE
SCALE IN MILES
PAINTED ROCK DAM
PAINTED ROCKS WILDLIFE AREA
PETROGLYPHS
69 KV POWER TRANSMISSION LINE
GILA RIVER
GILA BEND CANAL
ENTERPRISE CANAL
GILLESPIE DAM
ARLINGTON CANAL
WEBB MTN 1879
BLACK BUTTE 1493
SIGNAL MTN 2180
WOOLSEY PEAK 1970
SPRING MTN
RUNYAN PEAK 2418
R8W
R7W
R6W
R5W
T2S
T3S
T4S

LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

North Maricopa Mountains 2-157

Butterfield Stage Memorial 2-164

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Bureau of Land Management - Phoenix District

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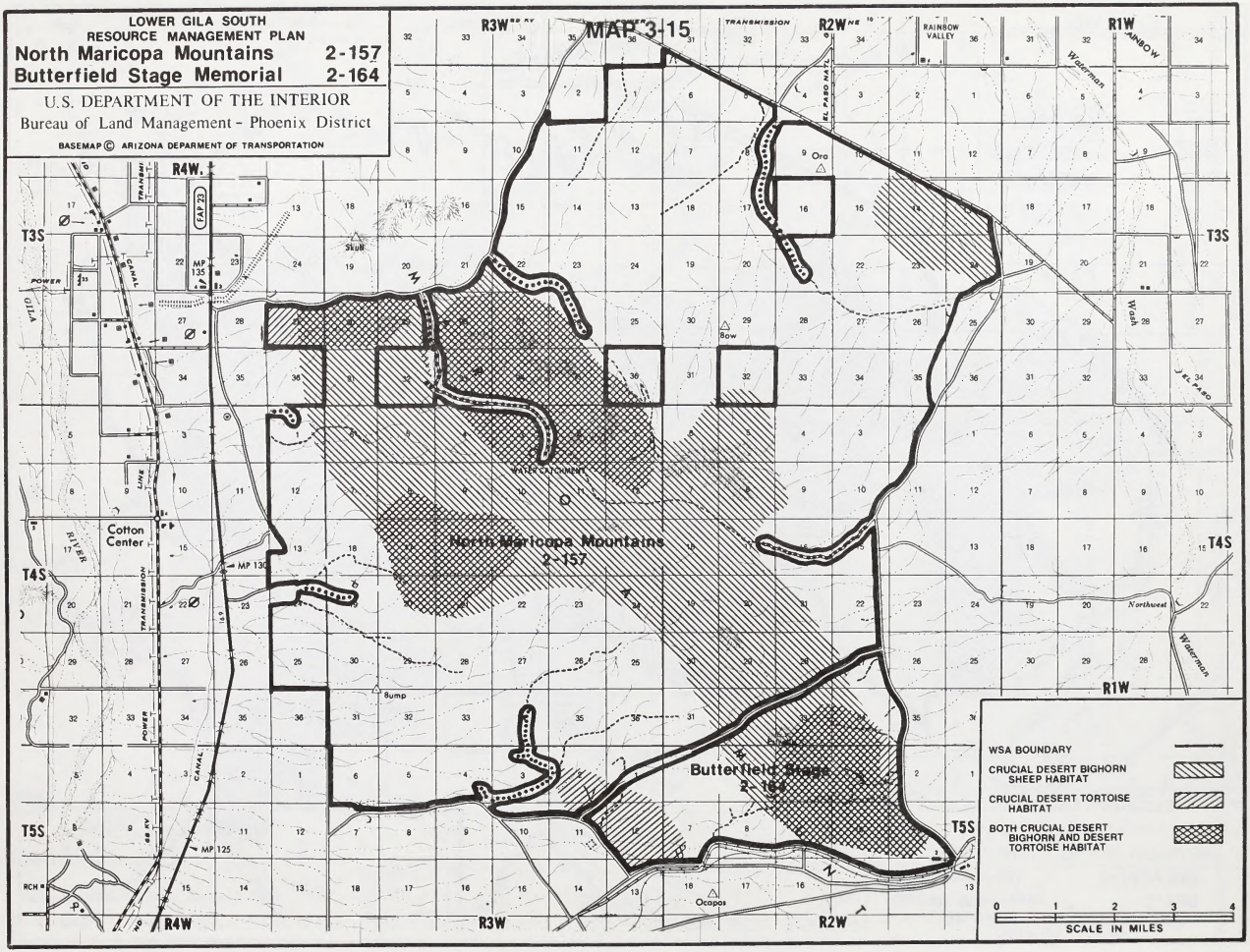
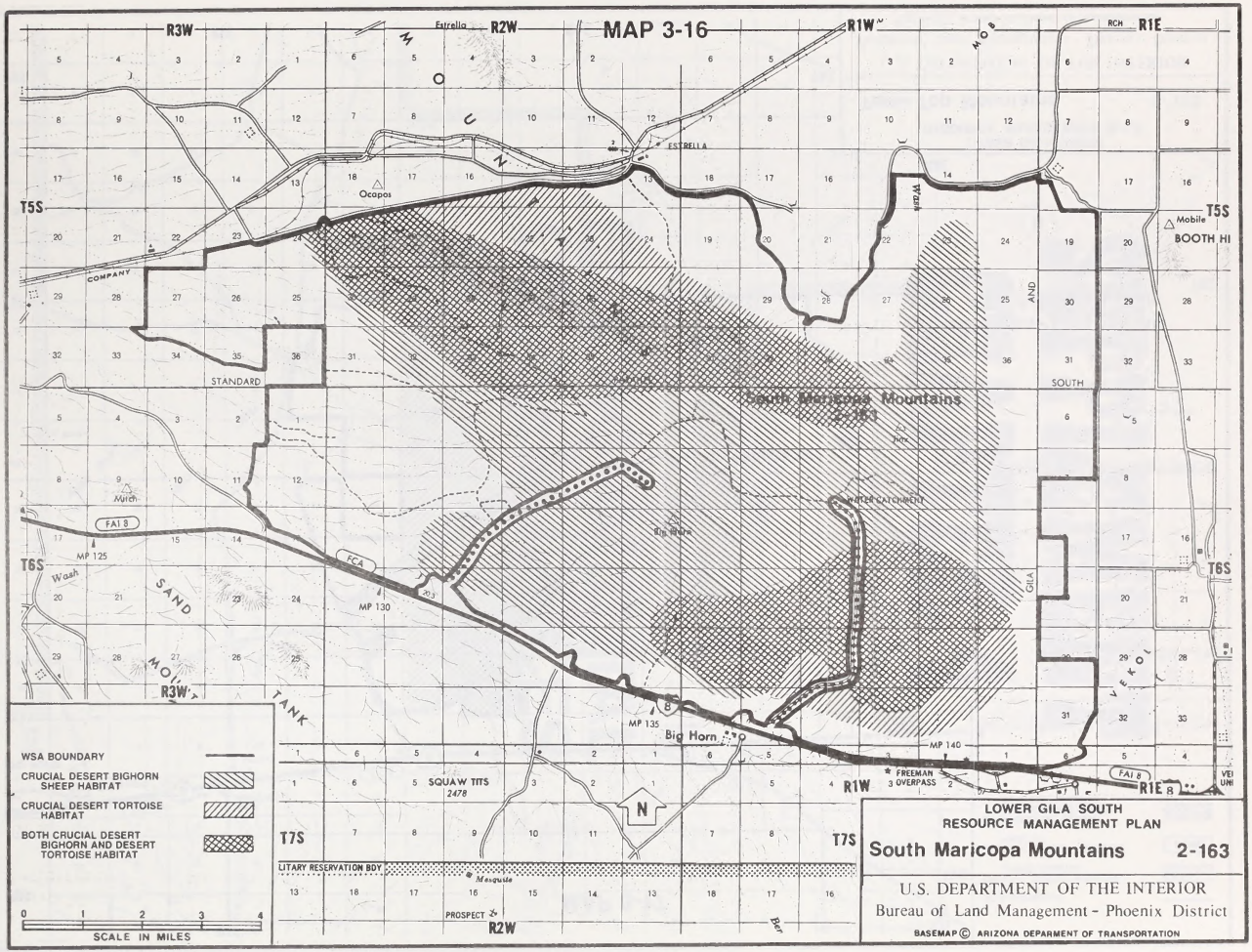
MAP 3-15




MAP 3-16
R3W
R2W
R1W
R1E
T5S
T6S
T7S
Estrella
ESTRELLA
Ocapos
Mobile
BOOTH HI
COMPANY
STANDARD
SOUTH
South Maricopa Mountains
2-163
Hare
WATER CATCHMENT
Big Horn
March
FAI 8
MP 125
MP 130
MP 135
MP 140
Wash
SAND
TANK
SQUAW TITS
2478
FREEMAN
OVERPASS
LITARY RESERVATION BDY
Mesquite
PROSPECT
GILA
N
WSA BOUNDARY
CRUCIAL DESERT BIGHORN SHEEP HABITAT
CRUCIAL DESERT TORTOISE HABITAT
BOTH CRUCIAL DESERT BIGHORN AND DESERT TORTOISE HABITAT
0 1 2 3 4
SCALE IN MILES
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
South Maricopa Mountains 2-163
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District
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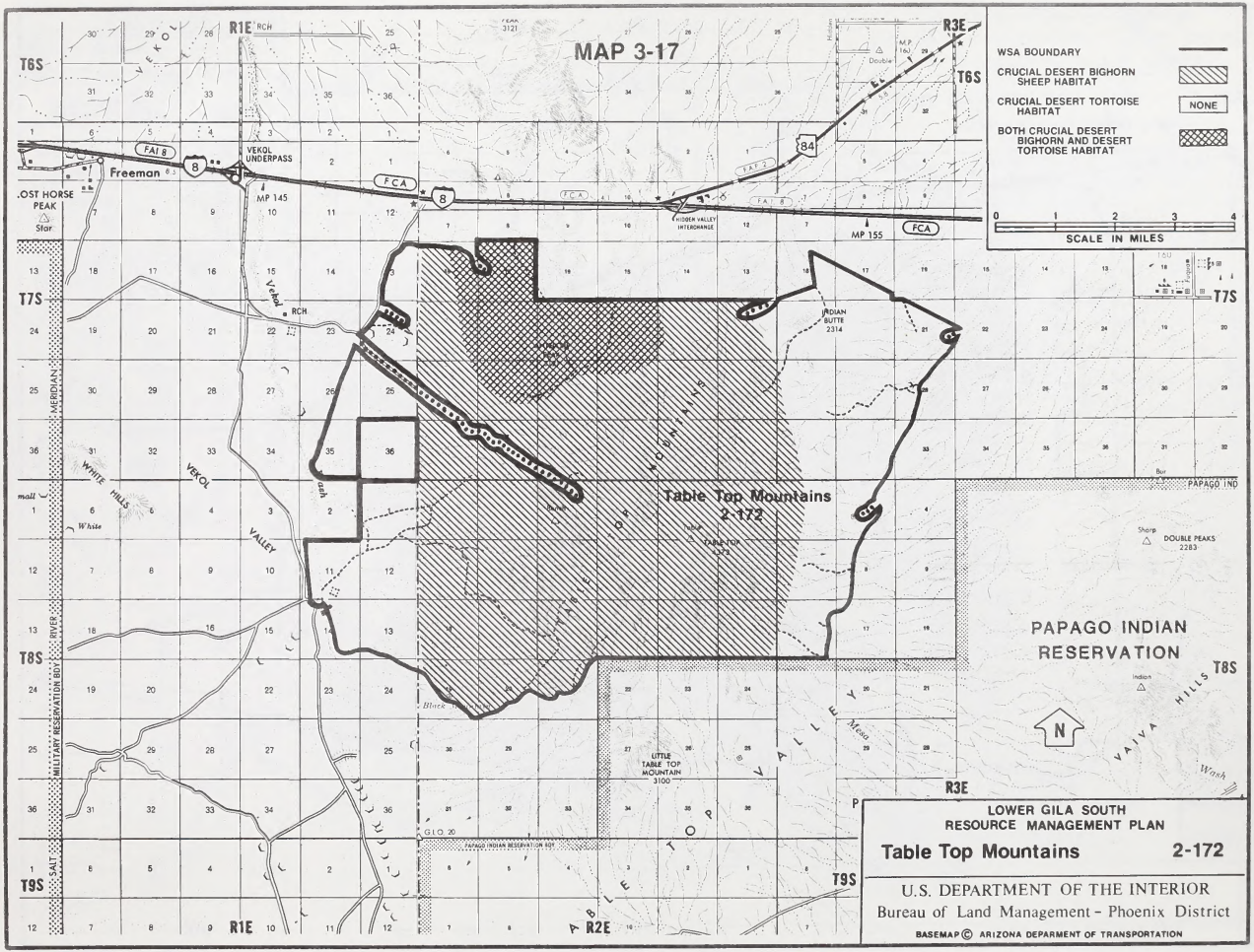
MAP 3-17
WSA BOUNDARY
CRUCIAL DESERT BIGHORN SHEEP HABITAT
CRUCIAL DESERT TORTOISE HABITAT
NONE
BOTH CRUCIAL DESERT BIGHORN AND DESERT TORTOISE HABITAT
SCALE IN MILES
0 1 2 3 4
Table Top Mountains
2-172
PAPAGO INDIAN RESERVATION
Freeman
VEKOL UNDERPASS
MP 145
MP 155
FCA
FAI 8
HIDDEN VALLEY INTERCHANGE
LOST HORSE PEAK
INDIAN BUTTE 2314
DOUBLE PEAKS 2283
LITTLE TABLE TOP MOUNTAIN 3100
TABLE TOP MTS
WHITE HILLS
VEKOL VALLEY
TABLE TOP VALLEY
VAIVA HILLS
T6S
T7S
T8S
T9S
R1E
R2E
R3E
N
LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN
Table Top Mountains 2-172
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District
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SUPPLEMENT CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

WILDERNESS SUPPLEMENT—CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

Introduction

Chapter 4 analyzes the environmental consequences of the alternatives for each WSA. Each analysis will be commensurate with the degree of expected impact. BLM determined that no measurable impacts would occur to geology, topography, soils, air quality, climate, vegetation, wild burros, fire management, or social conditions, and these components are not discussed in this chapter.

Aircraft sightings and noise may occasionally be noticed above all of the WSAs. Passage of low flying aircraft could temporarily disrupt solitude opportunities.

There will be no specific prohibition of overflights above designated wilderness areas by aircraft on essential military training missions. Where low overflight would be expected to become a problem, wilderness management plans would provide for liaison between BLM and the military or the Federal Aviation Administration in efforts to resolve overflight problems.

Basic Assumptions

To provide a standard framework for impact analysis and comparison among the four alternatives the following assumptions were used.

1. All impacts identified are based on the premise that BLM will implement the Lower Gila South RMP's *Proposed Action* for all resources except for the wilderness portion of that alternative.
2. Short-term impacts are considered to be those which would occur over a five-year period after designation, while long-term impacts are those occurring more than five years after designation. Unless otherwise stated, all impacts are considered long-term.
3. BLM will have the funding and work force to implement the chosen alternative.
4. WSAs will be managed under BLM's Interim Management Policy until either designated wilderness or released by Congress.
5. If an area is designated wilderness, the Wilderness Management Policy will be used as a guide for those activities that are permissible.
6. BLM cannot block access to nonfederal mineral or privately owned lands within a designated wilderness area.
7. Effective on the date of designation, any area designated wilderness will be withdrawn from all forms of appropriation under the mining laws. This provision is subject to valid existing rights.
8. Range facilities will be maintained by customary methods, and new rangeland developments may be allowed when site-specific environmental assessments show wilderness resources will not be impaired.
9. Livestock grazing will be maintained at present levels unless adjusted for reasons prescribed through range management practices.
10. Traditional forms of wildlife habitat improvement projects used in the Phoenix District would continue to be installed in wilderness areas as they have in WSAs under the Interim Management Policy.

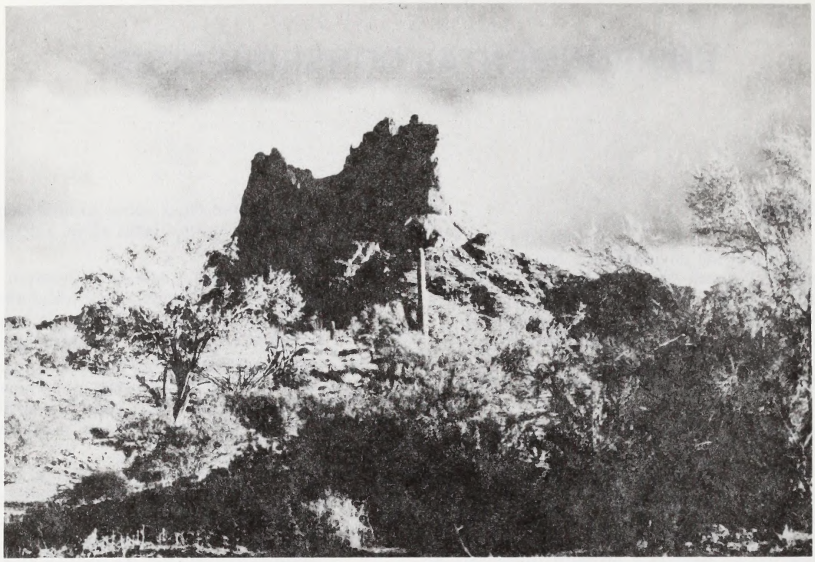
Proposed Action

NEW WATER MOUNTAINS (AZ-020-125)

Wilderness Values

Designation of 24,120 acres of the New Water Mountains WSA would ensure the preservation of its most manageable and higher quality wilderness characteristics. Designation would have beneficial impacts on the WSA's wilderness resources by restricting or prohibiting land uses not compatible with wilderness preservation. The WSA's remaining 16,255 acres would be returned to multiple use management.

Primitive recreation and solitude opportunities would remain outstanding under the *Proposed Action* because the WSA's important supplemental values and most diverse topography would be within the wilderness. The area recommended as suitable centers on the New Water Mountain ridgeline. a picturesque range of peaks encircled by lower hills, washes, and canyons, and Black Mesa, a large flat-topped volcanic butte. The overall quality of primitive recreation opportunities would be slightly diminished because of the smaller area



Rock Formation—New Water Mountain WSA

designated, but challenging hiking trips, extensive cross-country treks, and uninterrupted solitude would still be available.

Much of the WSA's important wildlife, cultural, botanical, and scenic resources would benefit because of additional protection from surface-disturbing activities. Designation would ensure the preservation of the WSA's most striking scenic and visual resources.

Wilderness management would constrain the majority of mining activity and associated developments. Although mining claims exist in several parts of the suitable area, mining activity would be limited to mining claims with valid discoveries at the time of wilderness designation.

The proposed boundary should preclude casual vehicle use. Manageability would be facilitated by the adjoining Kofa National Wildlife Refuge that has been administratively endorsed for wilderness to the south.

Most of the 16,255 acres proposed as unsuitable for wilderness designation is now under a withdrawal application to enlarge the Kofa National Wildlife Refuge. If the withdrawal application is approved, the unsuitable portion would continue to be closed to mineral entry. Therefore, no loss of wilderness values on the undesignated portion would be expected over the long term.

If the withdrawal application is not approved, mining would be permitted. Mining of the area would be likely because of the area's mineral potential. Development in the unsuitable portion could cause a permanent loss of existing wilderness and supplemental values.

The northern portion of the WSA, which parallels Interstate 10 for 4.5 miles, would become an established utility corridor under this alternative. The corridor would extend a half mile into the WSA and powerline or pipeline development here would cause a permanent loss of naturalness.

Minerals and Energy

Designation or nondesignation of this WSA would not impact mineral development because the WSA is currently under withdrawal application and is closed to mineral entry. Table S-10 shows the number of mining claims in the area proposed for designation.

TABLE S-10
MINING CLAIMS BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

WSAs	Proposed Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	57	--	57	149
Little Horn Mountains West	0	--	0	844
Little Horn Mountains	0	--	241	314
Eagletail Mountains	11	--	15	36
East Clanton Hills	0	--	0	198
Face Mountain	0	--	31	32
Signal Mountain	0	--	0	243
Woolsey Peak	17	--	17	244
North Maricopa Mountains	0	--	196	424
South Maricopa Mountains	0	--	0	431
Butterfield Stage Memorial	0	--	0	88
Tabletop Mountains	114	--	109	149
TOTAL CLAIMS	199	--	666	3,152

SOURCE: Phoenix District files

Wildlife

The *Proposed Action* would protect 24,120 acres of crucial bighorn sheep habitat and 5,820 acres of crucial tortoise habitat (Tables S-11 and S-12). Habitat improvements could continue, subject to wilderness guidelines. Elimination of ORV use would decrease the opportunity to collect state protected reptiles and would lessen vandalism of wildlife improvements. These acres are currently closed to mining claim location so wildlife habitat is fairly well protected. Wilderness designation would make the protection permanent.

TABLE S-12
ACRES OF CRUCIAL TORTOISE HABITAT PROTECTED BY ALTERNATIVE*
Bureau of Land Management, Phoenix District, Arizona

WSAs	Proposed Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	5,820	--	5,820	6,860
Little Horn Mountains West	--	--	--	--
Little Horn Mountains	--	--	--	--
Eagletail Mountains	--	--	--	--
East Clanton Hills	--	--	--	5,480
Face Mountain	--	--	--	--
Signal Mountain	--	--	--	980
Woolsey Peak	--	--	--	--
North Maricopa Mountains	--	--	7,050	7,050
South Maricopa Mountains	--	--	--	17,830
Butterfield Stage Memorial	--	--	--	2,870
Tabletop Mountains	4,700	--	4,700	5,700
TOTAL ACRES	10,520	--	17,570	46,770

* Crucial tortoise habitat is habitat with tortoise population densities of 50 tortoise per square mile or greater. All WSAs contain tortoise populations.
SOURCE: Phoenix District files

TABLE S-11
ACRES OF CRUCIAL DESERT BIGHORN SHEEP HABITAT PROTECTED BY ALTERNATIVE*
Bureau of Land Management, Phoenix District, Arizona

WSAs	Proposed Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	24,120	--	24,120	24,120
Little Horn Mountains West	--	--	--	12,660
Little Horn Mountains	--	--	45,320	59,680
Eagletail Mountains	41,950	--	62,520	70,200
East Clanton Hills	--	--	--	18,280
Face Mountain	--	--	--	--
Signal Mountain	--	--	--	7,860
Woolsey Peak	58,240	--	58,240	59,680
North Maricopa Mountains	--	--	28,190	39,280
South Maricopa Mountains	--	--	--	42,800
Butterfield Stage Memorial	--	--	--	6,310
Tabletop Mountains	22,780	--	22,780	22,780
TOTAL ACRES	147,090	--	241,170	373,850

* Crucial desert bighorn sheep habitat is habitat necessary to maintain current populations. Population density varies.
SOURCE: Phoenix District files

The 16,255 acres not recommended for wilderness include 10,000 acres of crucial bighorn sheep habitat that include parts of the New Water and Dripping Springs lambing areas, and 1,040 acres of crucial desert tortoise habitat. These areas are presently protected from mining by the withdrawal application, but tortoise in these areas are vulnerable to unauthorized collection.

Land Uses

Designation of the suitable portion of this WSA would preclude future land actions within this area.

There are no known existing or proposed land actions that would be impacted by this alternative.

Rangeland Management

Designation would not impact livestock grazing management on the 10 percent of the Crowder-Weisser allotment proposed for designation. No new rangeland developments are proposed within the boundaries of the WSA. Any existing rangeland developments would be maintained in accordance with the Wilderness Management Policy.

Cultural Resources

Under this alternative 14,050 acres which have a high probability of containing cultural resources would be beneficially affected (Table S-13). Designation would limit the potential for surface disturbance and thereby benefit cultural resources.

TABLE S-13
ACRES OF CULTURAL RESOURCE SENSITIVE AREAS
PROTECTED BY ALTERNATIVE*
Bureau of Land Management, Phoenix District, Arizona

WSA#	Proposed Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	14,050	--	14,050	15,330
Little Horn Mountains West	--	--	--	7,180
Little Horn Mountains	--	--	28,655	31,535
Eagletail Mountains	55,428	--	55,428	62,340
East Clanton Hills	--	--	--	11,725
Face Mountain	--	--	8,800	9,180
Signal Mountain	--	--	--	3,490
Woolsey Peak	21,145	--	21,145	26,585
North Maricopa Mountains	--	--	4,160	17,880
South Maricopa Mountains	--	--	--	14,040
Butterfield Stage Memorial	--	--	--	4,480
Tabletop Mountains	13,195	--	13,195	14,795
TOTAL ACRES	103,818	--	145,513	218,560
PERCENT OF ACRES	55%	--	45%	36%

* Areas likely to contain cultural resources that would be protected by wilderness designation.
SOURCE: Phoenix District files

Often a wilderness area is a natural region such as a mountain range, so designation could aid in preserving entire ecological systems on which prehistoric settlement systems were based (Green, 1975). The New Water Mountains contain cultural resources dating from 7000 B.C. through at least 1700 A.D. (Rodgers n.d.). Wilderness designation would protect a wide variety of site types which may eventually be used for scientific purposes. Previously recorded site types in the proposed wilderness include lithic quarries and scatters, rockshelters, trails, petroglyphs, and stone walls. These structures indicate permanent or semi-permanent habitations as well as temporary occupation.

In the nonsuitable Chalk Wash area, 1,280 acres with a high probability of containing cultural resources would not have any added protection. Surface disturbances would pose a high threat to a wide variety of sites in this area.

Protected Plants

Wilderness designation would provide better protection of 24,120 acres of habitat for four special-status plant species by prohibiting surface disturbances. The New Water Mountains are currently withdrawn from mineral entry by withdrawal application, but wilderness designation would ensure long-term protection. Habitat degradation from mining activity is an important consideration because of the area's high mineral potential. The closure of 10.25 miles of vehicle ways and roads would limit the illegal collection of the night-blooming cereus that may occur in this area.

The remaining 16,255 unsuitable acres could remain under withdrawal, but if the withdrawal application is not approved, mineral exploration and development would likely take place. Potential habitat for protected plants would be affected by these surface-disturbing activities.

Recreation and Visual Resource Management (VRM)

In this WSA, 7.5 miles of vehicle ways, 2.75 miles of roads, and 24,120 acres would be closed to ORV use. Motorized recreation use of approximately 50 visitor days/year in the suitable area is expected to shift to the nonsuitable area. Designation is expected to increase visitor use by 1,000 visitor days/year (Table S-14). The major increase in visitor use would occur in the suitable area.

The suitable acres would be managed as Visual Resource Management Class I and the nonsuitable acres would be managed as Class III (Table S-15). Visual resources are better protected under the more restrictive Visual Resource Management Class I guidelines.

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use by 1,000 visitor days/year. Annual recreation related expenditures would thus increase by $3,820, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of claims filed before the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This could result in additional costs to mine operators and therefore discourage development.

TABLE S-14
NUMBER OF RECREATION VISITOR DAYS/YEAR
EXISTING AND PROJECTED CHANGES BY WSA AND BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

	Existing Use	Projected Changes			
		Proposed Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	1,000	+1,000	0	+1,000	0
Little Horn Mountains West	500	0	0	0	+ 200
Little Horn Mountains	1,000	0	0	+ 500	+ 300
Eagletail Mountains	1,500	+1,500	0	+1,200	+ 700
East Clanton Hills	400	0	0	0	+ 300
Face Mountain	300	0	0	+ 550	+ 500
Signal Mountain	300	0	0	0	+ 300
Woolsey Peak	200	+1,450	0	+1,450	+ 800
North Maricopa Mountains	1,500	0	0	+ 500	+ 500
South Maricopa Mountains	300	0	0	0	+ 700
Butterfield Stage Memorial	2,000	0	0	0	+ 300
Tabletop Mountains	1,000	+ 700	0	+ 700	+ 600
TOTAL VISITOR DAYS	10,000	+4,650	No Change	+5,900	+5,200

SOURCE: Phoenix District files

TABLE S-15
VISUAL RESOURCE MANAGEMENT CLASS ACREAGES UNDER THE PROPOSED ACTION
Bureau of Land Management, Phoenix District, Arizona

WSAs	VRM Classes					TOTAL WSA ACREAGE
	I	II	III	IV	V	
New Water Mountains	24,120	0	16,255*	0	0	40,375
Little Horn Mountains West	0	0	12,660*	0	0	12,660
Little Horn Mountains	0	0	90,430*	0	0	90,430
Eagletail Mountains	70,230	0	46,835*	0	0	117,065
East Clanton Hills	0	0	36,560*	0	0	36,560
Face Mountain	0	0	27,575*	0	0	27,575
Signal Mountain	0	0	0	19,640	0	19,640
Woolsey Peak	61,000	0	0	12,930	0	73,930
North Maricopa Mountains	0	48,708	14,720	7,040	0	70,468
South Maricopa Mountains	0	47,960	9,760	13,600	0	71,320
Butterfield Stage Memorial	0	9,246	320	0	0	9,566
Table Top Mountains	34,400	320	1,280	1,968	0	37,968
TOTAL ACRES	189,750	106,234	256,395	55,178	0	607,557

* Denotes public land acreages that have not been classified according to BLM's Visual Resource Management Classes.

SOURCE: VRM 8400 Planning Manual

TABLE S-16
RECREATION EXPENDITURES BY WSA AND BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

	Expenditures Relating to Existing Uses*	Increases in Expenditures by Alternative**			
		Proposed Action	Resource Production	Resource Protection	Environmental Protection
New Water Mountains	$ 3,820	$ 3,820	--	$ 3,820	--
Little Horn Mountains West	1,910	--	--	--	$ 764
Little Horn Mountains	3,820	--	--	1,910	1,146
Eagletail Mountains	5,730	5,730	--	4,584	2,674
East Clanton Hills	1,528	--	--	--	1,146
Face Mountain	1,146	--	--	2,101	1,910
Signal Mountain	1,146	--	--	--	1,146
Woolsey Peak	764	5,539	--	5,539	3,056
North Maricopa Mountains	5,730	--	--	1,910	1,910
South Maricopa Mountains	1,146	--	--	--	2,674
Butterfield Stage Memorial	7,640	--	--	--	1,146
Table Top Mountains	3,820	2,674	--	2,674	2,292
TOTAL	$38,200	$17,763	--	$22,538	$19,864

* Expenditure estimate based on $3.82 per 12-hour visitor day ASO BLM Wilderness Survey (BLM 1983).
** The Recreation sections of this document give an estimate of visitor use change by alternative and WSA.
SOURCE: Phoenix District files and ASO Wilderness Survey

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year, if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM and the state receives yearly.

TABLE S-17
OIL AND GAS LEASE REVENUE BY WSA AND ALTERNATIVE (YEARLY PAYMENTS)
Bureau of Land Management, Phoenix District, Arizona

	New Water Mountains	Little Horn Mtns. (W)	Little Horn Mountains	Eagletail Mountains	East Clanton Hills	Face Mountain	Signal Mountain	Woolsey Peak	North Maricopa Mountains	South Maricopa Mountains	Butterfield Stage Memorial	Table Top Mtns.
EXISTING SITUATION												
WSA Acres	40,375	12,660	90,430	117,065	36,560	27,575	19,640	73,930	70,468	71,320	9,566	37,968
Potential Yearly Revenue*	$40,375	$12,660	$90,430	$117,065	$36,560	$27,575	$19,640	$73,930	$70,468	$71,320	$9,566	$37,968
Potential State Revenue**	$20,188	$ 6,330	$45,215	$ 58,533	$18,280	$13,788	9,820	$36,965	$35,234	$35,660	$4,783	$18,984
PROPOSED ACTION												
Acres Withdrawn From Leasing	24,120	0	0	70,230	0	0	0	61,000	0	0	0	34,400
BLM Revenue Forgone***	$12,060	0	0	$ 35,115	0	0	0	$30,500	0	0	0	$17,200
State Revenue Forgone	$12,060	0	0	$ 35,115	0	0	0	$30,500	0	0	0	$17,200
RESOURCE PRODUCTION (NO WILDERNESS)												
Acres Withdrawn From Leasing	0	0	0	0	0	0	0	0	0	0	0	0
BLM Revenue Forgone***	0	0	0	0	0	0	0	0	0	0	0	0
State Revenue Forgone***	0	0	0	0	0	0	0	0	0	0	0	0
RESOURCE PROTECTION												
Acres Withdrawn From Leasing	24,120	0	49,940	88,660	0	26,390	0	61,000	39,840	0	0	34,400
BLM Revenue Forgone***	$12,060	0	$24,970	$ 44,330	0	$13,195	0	$30,500	$19,920	0	0	$17,200
State Revenue Forgone***	$12,U6U	0	$24,970	$ 44,330	0	$13,195	0	$30,500	$19,920	0	0	$17,200
ENVIRONMENTAL PROTECTION (ALL WILDERNESS)												
Acres Withdrawn From Leasing	40,375	12,660	90,430	117,065	36,560	27,575	19,640	73,930	70,468	71,320	9,566	37,968
BLM Revenue Forgone***	$20,188	$ 6,330	$45,215	$ 58,533	$18,280	$13,788	$ 9,820	$36,965	$35,234	$35,660	$4,783	$18,984
State Reveue Forgone***	$20,188	$ 6,330	$45,215	$ 58,533	$18,280	$13,788	$ 9,820	$36,965	$35,234	$35,660	$4,783	$18,984

* Assumes the entire WSA would be leased at a rate of one dollar per acre per year.
** One-half of all lease revenues collected by BLM is returned to the state.
*** All values represent potential yearly lease revenues.
SOURCE: Phoenix District files

LITTLE HORN MOUNTAINS WEST (AZ-020-126A)

Wilderness Values

Under this alternative, none of the 12,660 acres of the Little Horn Mountains West WSA would be designated wilderness. Nondesignation could have short- and long-term adverse impacts to the WSA because land uses detrimental to its wilderness values could be permitted. All WSA lands would be returned to multiple use management.

Mineral exploration and associated surface disturbances in the WSA's mountainous terrain and on its desert pavement bajada areas is expected. While the WSA is considered to have moderate mineral potential, the entire WSA is blanketed with lode and placer mining claims. Considerable potential exists for surface disturbances from assessment work and exploration activities.

Mining in the WSA would reduce solitude opportunities and supplemental values because the WSA's small size makes mining activity and exploration readily apparent. Improved access within the WSA for mining would further increase motorized recreation use and cause a decline in wilderness values.

With nondesignation, the WSA would be managed under VRM Class III standards rather than the Class I standards required by wilderness. Subsequently, projects for livestock and wildlife and rights-of-way construction would be less restricted under Class III guidelines and would be more noticeable and more impairing to the WSA's natural character.

Minerals and Energy

The *Proposed Action's* recommendation to drop 12,660 acres from wilderness designation would have a beneficial impact on mineral exploration and mining. Nondesignation would allow exploration and development of all potential minerals and energy resources. Table S-10 shows the number of mining claims that would be impacted by this alternative.

Wildlife

Under the *Proposed Action* low-density desert tortoise habitat and 12,660 acres of crucial desert bighorn sheep habitat would be subject to surface disturbances caused by motorized recreation and mining. The impacts of nondesignation would be significantly adverse for the bighorn sheep and desert tortoise that inhabit this WSA.

Other desert wildlife would also suffer somewhat from nondesignation, since habitat loss and human disturbance negatively affects all wildlife to various degrees. Overall impacts of nondesignation would be slightly adverse for wildlife.

Both mineral exploration and ORV use are expected to increase over the long term. In the absence of wilderness designation, the cumulative long-term adverse impacts of these activities would be significant for wildlife in general and bighorn sheep in particular.

Land Uses

Since there is no designation proposed there would be no impact to the lands program.

Rangeland Management

Nondesignation of this WSA would not impact livestock grazing.

Cultural Resources

The 7,180 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. Mining and road construction would pose a moderate threat to a number of cultural resource sites in the WSA.

Protected Plants

Four special-status plant species may grow in the Little Horn Mountains West WSA. Populations of two of these species are known within a mile of the existing WSA boundaries. With nondesignation the additional habitat protection provided by wilderness status would not apply to this area. Although the area has a moderate potential for mineral development, it is completely covered with mining claims and considerable surface disturbance is anticipated from mining assessments, exploration, and small-scale operations. This type of habitat disturbance negatively impacts populations of rare plants.

Recreation and Visual Resource Management (VRM)

There would be no impact to recreation use from nondesignation of this WSA, as use is expected to continue along present trends. The 12,660 acres of nondesignated lands would remain open to ORV use and

would continue to be managed as Visual Resource Management Class III lands. Management guidelines for Class III lands are less restrictive than for Class I, therefore the visual resources on 12,660 acres would be less protected (Table S-15).

Economic Conditions

Recreation Economics. Recreation expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. Nondesignation would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends as would revenue collections.

LITTLE HORN MOUNTAINS (AZ-020-127)

Wilderness Values

Under this alternative, none of the Little Horn Mountains WSA's 90,430 acres would be recommended as suitable for wilderness. Nondesignation could have short- and long-term adverse impacts on the wilderness values present in the WSA because land uses detrimental to its wilderness values would be permitted. All lands would be returned to multiple use.

Surface disturbances caused by mining, motorized vehicle use, or rights-of-way construction would cause detrimental impacts to wilderness and supplemental values because the WSA's desert bajada and basaltic mountain landscapes are fragile and susceptible to disturbance. Poor soils and sparse rainfall make natural rehabilitation a lengthy process.

The southern half of the WSA would be impacted most by mineral exploration over the long term because of its mineral potential and mining industry interest. Large blocks of claims (covering 71 percent of the WSA) have been filed in the mountainous portion of the WSA, therefore considerable surface disturbance would be expected from assessment work, exploration, and possible mining. Also, a precious stone mining operation could expand and cause impacts in a large canyon two miles northeast of Little Horn Peak. The Ranegras Plain is not expected to be impacted by mining.

The Ranegras Plain and the more accessible bajada and washes on the WSA's east and south boundaries are relatively undisturbed by vehicle scars. Similar areas, such as the Palomas Plain and Hyder Valley to the south, are heavily impacted by ORV tracks and seismic exploration. The loss of wilderness protection for the WSA's plain areas could result in their natural character being damaged over the long term.

A one-half-mile-wide strip inside the WSA and south of the El Paso Gas Pipeline, along four miles of the WSA's north boundary, would be established as a utility corridor. Utility construction would result in a loss of the natural character in this portion of the WSA.

Minerals and Energy

Nondesignation would have a beneficial impact on the mineral industry as exploration and development of all potential minerals and energy resources would be allowed. Development would still be required to comply with BLM's 3809 Surface Management mining regulations.

Wildlife

Under the *Proposed Action* 59,860 acres of desert bighorn sheep habitat would not be protected by wilderness designation. Because of the mineral potential of the WSA, the impact of nondesignation would be somewhat negative for bighorn sheep, and low-density desert tortoise habitat would be exposed to mining exploration and possible development.

It is anticipated that both mineral exploration and ORV use would increase over the long term. In the absence of wilderness designation, cumulative long-term adverse impacts from these activities would be significant for wildlife in general and bighorn sheep in particular.

Land Uses

Since there is no designation proposed, there would be no impact to the lands program.

Rangeland Management

Livestock grazing would not be impacted by nondesignation of this WSA.

Cultural Resources

The 31,535 acres of this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. Mining, road construction, and ORV use pose moderate threats to the important cultural resources sites in this WSA.

Protected Plants

Two special-status plant species occur in the Little Horn Mountains WSA and two additional species may be found in this area. Although the WSA has a moderate potential for mineral development, 71 percent of the area is covered by mining claims. Considerable surface disturbance would be expected from mining claim assessment work, explorations, and small-scale operations under multiple use management. Additional habitat disturbances from ORV use are likely in the northern portion of the WSA.

Recreation and Visual Resource Management (VRM)

There would be no impacts to recreation use under nondesignation, as this use is expected to continue along present trends. The 90,430 acres of nonsuitable public lands would remain open to ORV use and would be managed as Visual Resource Management Class III lands. Management guidelines for Class III lands are less restrictive than for Class I, therefore the visual resources on the 90,430 acres would be less protected (Table S–15).

Economic Conditions

Recreation Economics. Recreation expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends as would revenue collections.

EAGLETAIL MOUNTAINS (AZ-020-128)

Wilderness Values

The *Proposed Action* would designate 70,230 acres of the Eagletail Mountains WSA as wilderness and return 46,835 acres to multiple use management.

Wilderness designation of the lands recommended suitable would preserve the WSA's highest wilderness values by including the majority of the Eagletail Mountains and the large desert plain stretching south to Cemetery Ridge.

Wilderness designation would maintain the excellent solitude and primitive recreation opportunities in the WSA but overall quality would be somewhat lessened by the suitable area's smaller size and the placement of wilderness boundaries. The most significant impact of the boundary adjustment results from the exclusion of the desert bajada area that runs from the base of the Eagletail ridgeline north to the El Paso Pipeline right-of-way. The scenic monolith of Courthouse Rock is outside the area proposed for designation. Motorized vehicles and mining activity could take place up to the base of the Eagletail Mountains. Visitors on the ridgeline would be able to see and hear these activities below them. The *Proposed Action* boundary also would exclude portions of Cemetery Ridge northwest of Nottbusch Butte. Mining activities on these ridges could be seen across large portions of the desert bajada within the suitable area.

Wilderness designation would protect the WSA supplemental values. Crucial bighorn sheep habitat and major cultural resource features are enclosed by the suitable area. In addition, part of a State of Arizona identified natural area would be protected.

The suitable area is considered manageable as wilderness over the long term. Boundaries delineated by the *Proposed Action* are natural barriers that would discourage casual motorized vehicle intrusions.

State-owned surface and mineral inholdings pose some management concerns. Development of these parcels would cause adverse impacts to wilderness values. Acquisition of these parcels through exchange would better facilitate wilderness management. Mining claim conflicts are presently minimal and should not have a great effect on the area's future manageability.

Lands not recommended for wilderness by the *Proposed Action* would be managed for multiple uses. Some land uses could, over the long term, result in the loss of wilderness characteristics on the nondesignated lands. A proposed utility corridor that would be highly noticeable would extend a half mile south of the existing El Paso Gas Pipeline right-of-way. Mining activity would create additional roads and exploration scars with long-term visual impacts. There has been one mining operation in this area in the last two years.

Continued or even increased ORV use would have few additional impacts on the natural character of these lands. Vehicles are expected to continue using existing trails, washes, and cherrystem roads in the undesignated portion. Wildlife habitats, primarily bighorn sheep, would be susceptible to increased encroachment of motorized vehicles.

Minerals and Energy

The *Proposed Action* would designate 60 percent (70,230 acres) of this area as suitable for wilderness. Designation would have a negative impact on mineral development. Because of its geology and structure, this

area has a high potential for exploration and mining. Designation would severely restrict all forms of mineral development on existing mining claims, oil and gas leases, and saleable materials. In addition, no new claims or leases would be allowed under this designation. Table S-10 shows the number of mining claims in the portion of the WSA proposed for designation.

Nondesignation of 40 percent or 46,835 acres would have a beneficial impact on mineral development by allowing exploration and utilization of all mineral potential.

Wildlife

Under this alternative 41,950 acres of crucial bighorn sheep and low-density desert tortoise habitat would be protected (Table S-11). Controlling vehicle access would benefit bighorn sheep and desert tortoise populations because there would be less opportunity for poaching of bighorns and overcollection of tortoise. However, on the 28,250 acres of bighorn sheep habitat that would not be recommended for wilderness, bighorn sheep would be more subject to poaching. Habitat improvements such as water developments would still be allowed, subject to wilderness constraints.

Land Uses

Under the *Proposed Action* 70,230 acres in the Eagletail Mountains WSA would be designated as wilderness, which would preclude future land actions within this area. There are no existing or proposed land actions or utility corridors that would be impacted by this alternative.

Rangeland Management

Designation of the suitable portion would not impact livestock grazing on the Ranegras Plain allotment. No significant impacts to grazing management on the Eagle Tail allotment would occur since all existing rangeland developments would be maintained using current methods and access routes in accordance with the Wilderness Management Policy. No new rangeland developments are proposed within the WSA except for two miles of allotment boundary fence that would improve manageability and control livestock movement between the Eagle Tail and Ranegras Plain allotments. The fence would be located at the extreme northeast boundary of the suitable area.

The numbers of livestock allowed to graze in the WSA is expected to remain at levels existing when designated. Currently only 30 percent of the Eagle Tail allotment is being grazed and utilized at full potential. Unless livestock numbers are allowed to increase when monitoring shows that forage is available, wilderness designation could result in a loss of potential forage on this ranch operation.

Releasing 46,835 unsuitable acres from wilderness study would be beneficial to the livestock operator on the Eagle Tail allotment because rangeland developments could be constructed and maintained without having to follow restrictions imposed by wilderness.

Cultural Resources

Under this alternative 55,428 acres which have a high probability of containing cultural resources would be beneficially affected (Table S-13). Designation would limit the potential for disturbances to cultural resource sites by eliminating the existing moderate level of ORV use. Often a wilderness area is a natural region such as a mountain range, so designation could aid in preserving entire ecological systems on which prehistoric settlement systems were based (Green, 1975).

Approximately 12,000 acres with a high probability of containing cultural sites in the nonsuitable area would not be afforded the added protection of wilderness designation. A possible increase in vandalism through ORV use in this nonsuitable area would pose a moderate threat to a number of petroglyphs and rockshelter sites. One of these sites, a large petroglyph site, is believed to be eligible for the National Register.

Protected Plants

The WSA contains some of the highest botanical values found in the Lower Gila South RMP/EIS area. Wilderness designation would provide protection for 70,230 acres that include a state proposed natural area, populations of two special-status plant species, and potential habitat for an additional two species. The closure of 42.75 miles of vehicle ways would limit the illegal collection of night-blooming cereus.

The remaining 46,835 unsuitable acres would be returned to multiple use management. Some habitat disturbance is expected from ORV use and mineral assessment and exploration type operations. Nondesignation would allow additional ORV use and could increase illegal plant collecting. This alternative also excludes the north portion of the proposed natural area from wilderness status.

Recreation and Visual Resource Management (VRM)

Under the *Proposed Action,* 42.75 miles of vehicle ways would be closed to ORV use. There would be an

estimated decrease of 500 ORV-related visitor days/year from these closures. This decrease would be accompanied by an estimated increase of 2,000 visitor days/year of nonmotorized recreation use for a net increase of 1,500 visitor days per year (Table S-14).

The 70,230 acres recommended as suitable for wilderness designation would be closed to ORV use and managed under VRM Class I guidelines. Class I is more restrictive and therefore better protects visual resources than the VRM Class III designation which would apply to the 46,835 acres recommended as nonsuitable (Table S-15).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 1,500 visitor days/year. Annual visitor recreation-related expenditures would thus increase by $5,730, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to designation would be subject to increased regulation of access and reclamation in order to protect wilderness values. This could result in additional costs to mine operators and therefore discourage development. The local economy may be adversely affected by the prohibition of mineral exploration and development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would potentially forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

EAST CLANTON HILLS (AZ-020-129)

Wilderness Values

None of the East Clanton Hills WSA's 36,560 acres would be designated wilderness under the *Proposed Action*. All WSA lands would be returned to multiple use management.

Over the long term nondesignation may result in a loss of wilderness values. Mining in the WSA's mountainous northern half and motorized activities across the WSA's southern desert plains would be the most likely detrimental land uses. Mineral exploration and development, with its related road building and surface disturbance, would impair the WSA's natural character and wilderness values. The great number of mining claims and the evidence of mining on the WSA's northern edge reveal considerable interest in the area's mineral resources. The WSA's landscape, characterized by shallow soils, sparse plant cover, rocky outcrops, and slow weathering, would make surface disturbances from assessment work and exploration highly noticeable.

Though a fairly remote area, the WSA's plain-like southern landscape would be subject to ORV use and possible mineral development. Desert pavement soils in portions of the Hyder Valley outside the WSA are tracked by ORVs or crossed by seismic lines. The WSA's desert pavement and plain areas remain relatively free of such disturbances. Over the long term however, this area could have its natural character damaged as well.

Minerals and Energy

A nonsuitable recommendation would have a beneficial impact on mineral development. Nondesignation would allow exploration and development of all potential minerals and energy resources.

Wildlife

Under this alternative the WSA's 18,280 acres of crucial desert bighorn sheep habitat and 5,480 acres of crucial desert tortoise habitat would not be afforded the protection provided by wilderness. Nondesignation would have significantly adverse impacts on bighorn sheep in this area because sheep are highly susceptible to motorized vehicle use and mining activities. Other desert wildlife would also suffer somewhat from nondesignation, since habitat loss and human disturbance affects all wildlife negatively to various degrees.

Land Uses

There would be no impacts to the lands program from the nondesignation of this WSA.

Rangeland Management

Nondesignation would not impact livestock grazing on those portions of the Eagle Tail and the Palomas allotments, which overlap the WSA.

Cultural Resources

The 11,725 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. Both long- and short-term habitation sites, as well as extensive lithic

scatters may be disturbed by mineral exploration and ORV use.

Protected Plants

With nondesignation habitat for protected plants in the WSA would not have the added protection provided by wilderness. Mining assessment work, mineral exploration, and small-scale mining operations would likely degrade potential habitat for three special-status plant species. In the southern portion of the WSA some habitat degradation is likely from ORV use.

Recreation and Visual Resource Management

There would be no impacts to recreation use from the nondesignation of this WSA, as use is expected to continue along present trends. The 36,560 acres of nonsuitable public lands would remain open to ORVs and would be managed as Visual Resource Management Class III. Management guidelines for Class III lands are less restrictive than for Class I, therefore the visual resources on 36,560 acres would be less protected (Table S-15).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under the rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends and the yearly leasing revenue derived from oil and gas leases in this WSA would not be affected.

FACE MOUNTAIN (AZ-020-136)

Wilderness Values

None of Face Mountain WSA's 27,575 acres would be recommended suitable under the *Proposed Action*. All lands would be returned to multiple use management. Nondesignation of the Face Mountain WSA could have long-term adverse impacts to the WSA's natural character and solitude opportunities because land uses detrimental to wilderness values would be allowed. Resource uses and trends in the area over the short term are not expected to adversely impact wilderness values.

Face Mountain's desert landscape, with its shallow soils and arid climate, makes natural rehabilitation a lengthy process. Surface disturbances would be highly noticeable.

With nondesignation, mineral exploration and rights-of-way construction would be likely. Mineral development potential is considered low, thus wilderness values would probably not be impacted by mineral development. Utility construction is likely along one-half mile of the southern boundary since the area would be established as a utility corridor. Surface disturbance from these land uses would result in visual damage to existing wilderness values.

With nondesignation, the WSA would be managed under VRM Class III standards, which pose fewer restrictions on layout, design, and construction of proposed projects and afford less protection to visual resources than the Class I standards required by wilderness. Subsequently, livestock, wildlife, and rights-of-way construction could be more noticeable and might affect the WSA's scenic character.

Minerals and Energy

A nonsuitable recommendation for this WSA would have beneficial impacts on mineral development, allowing for exploration and development of all potential minerals and energy resources.

Wildlife

Desert tortoise habitat would be exposed to limited habitat disturbances from mining activity. Overall, the impacts of nondesignation would be slightly adverse for the desert tortoise. Other desert wildlife would be adversely impacted by nondesignation, since cumulative habitat loss and human disturbance negatively affects all wildlife species.

Land Uses

Since there is no designation proposed, there would be no impact to the lands program.

Rangeland Management

Nondesignation would not impact livestock grazing on those portions of the Gable-Ming, Mariani, and Amavisca allotments that overlap the WSA.

Cultural Resources

The 11,740 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. This acreage includes an extensive archaeological district, which has been nominated to the National Register of Historic Places. The cultural resource base, which is in generally good condition, may be subject to increased disturbances under this alternative due to an expected moderate amount of mining and road construction.

Protected Plants

With nondesignation the additional habitat protection provided by wilderness status would not apply to this WSA. Disturbances to potential habitat for three special-status plant species is likely from mineral assessment and exploratory activities and from small-scale mining operations.

Recreation and Visual Resource Management (VRM)

There would be no impacts to recreation use from nondesignation of the WSA, as use is expected to continue along present trends. The visual resources on 27,575 public acres would continue to be managed as VRM Class III and would remain open to ORV use. Management guidelines for Class III lands are less restrictive than for Class I, therefore the visual resources on 27,575 acres would be less protected (Table S-15).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing and revenue collections would continue along present trends.

SIGNAL MOUNTAIN AZ-020-138

Wilderness Values

None of Signal Mountain's 19,640 acres were recommended as suitable for wilderness under the *Proposed Action*. All lands would be returned to multiple use management.

Mineral exploration and development is likely in the WSA, particularly in its rugged northern quarter. About 27 percent of the area has mining claims. Surface disturbances caused by assessment work or exploration would disturb the terrain, wildlife habitats, and scenic character of Signal Mountain WSA. Such disturbances would be difficult to completely rehabilitate in this rugged and barren volcanic terrain. Impairment of the WSA's natural character would reduce the area's attractiveness as a setting for outstanding solitude and primitive recreation opportunities.

Nondesignation would allow a proposed utility corridor to be established along four miles of the WSA's western boundary. The utility corridor would extend a half mile into the WSA. Access, construction, and clearing in this corridor would create visual impacts in the proposed corridor.

Minerals and Energy

A nonsuitable recommendation would have a beneficial impact on mineral development by allowing exploration and development of all potential minerals and energy resources.

Wildlife

Under this alternative 7,680 acres of desert bighorn sheep habitat and 980 acres of crucial desert tortoise habitat would not be afforded the protection provided by wilderness. The impact of nondesignation would be significantly adverse for the bighorn sheep and desert tortoise in this WSA.

Other desert wildlife would be adversely impacted by nondesignation, since habitat loss and human disturbance negatively affect all wildlife species.

Land Uses

Since there is no designation proposed there would be no impact to the lands program.

Rangeland Management

Nondesignation would not impact livestock grazing on the portion of the Gable-Ming allotment that overlaps the WSA.

Cultural Resources

The 3,490 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. The Gila Bend Mountains, the most prominent features in this WSA, have been identified as having very high religious and subsistence significance to the Yavapai, Maricopa, Pima, and Papago Indians (Cultural Systems Research, Inc., 1978). Mining and road construction would pose a moderate threat to the cultural resources in the Gila Bend Mountains.

Protected Plants

The WSA is considered to have a moderate potential for mineral development with 27 percent of the area covered under mining claims. Under nondesignation, disturbances of habitat for three special-status plant species is expected from future assessment and exploratory activities and from mining operations.

Recreation and Visual Resource Management (VRM)

There would be no impacts to recreation use from the nondesignation of this WSA, as use is expected to continue along present trends. All 19,640 acres of public lands in this area have been classified as VRM Class IV and would remain open to ORV use. The area's visual resources would continue to be managed as VRM Class IV lands and would therefore be less protected than if managed as VRM Class I (Table S-15).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends. The yearly revenue collected by BLM for oil and gas leases would not be affected.

WOOLSEY PEAK (AZ-020-142/144)

Wilderness Values

The *Proposed Action* would designate 61,000 acres of the Woolsey Peak WSA as wilderness. About 12,930 acres of the WSA would not be designated wilderness, but would be returned to multiple use management.

Designation would protect over 15 miles of the Gila Bend Mountains from mining and other surface disturbance, likely to occur if the area does not become wilderness. The *Proposed Action's* boundary adjustments would maintain the WSA's excellent opportunities for solitude and primitive recreation.

Protecting wilderness values would in turn benefit other resource values such as scenic, wildlife, cultural, and protected plants. Wilderness designation would ensure the preservation of Woolsey Peak, the highest point in the Gila Bend Mountains and the WSA. People traveling dirt roads and highways outside the WSA would continue to observe unimpaired vistas of Woolsey Peak and the Gila Bend Mountains.

The suitable area is manageable as wilderness. Although mining claims exist in several portions of the WSA, mineral development on these claims is not expected to pose significant wilderness manageability problems. The topography of the WSA, coupled with well defined boundaries and the WSA's isolation, should serve to discourage most vehicle use.

Nondesignation of 12,930 acres could negatively impact wilderness values in the nondesignated area but would not affect the overall quality of the designated area. Mining and associated road building would be the most likely detrimental land use in the unsuitable portion of the WSA. The entire area is considered to have a medium potential for mineral development.

Minerals and Energy

The *Proposed Action* recommends 83 percent of the WSA as wilderness and would have a negative impact on mineral development. This designation would severely restrict all forms of mineral development on existing mining claims, oil and gas leases, and saleable materials. In addition, no new claims and leases would be allowed under this designation. Table S-10 shows the number of mining claims located in the portion of this WSA proposed for designation.

The nondesignated acreage would be open for exploration and development, which would benefit the mineral and energy industry. The mineral potential in

Desert Plain—Woolsey Peak WSA

this WSA is rated as medium as is the potential for development.

Wildlife

Under the *Proposed Action,* 58,240 acres of crucial desert bighorn sheep habitat (Table S–11) would be protected from mineral development which is likely without wilderness designation. Bighorn sheep are highly susceptible to mining activity and to poaching when vehicle access is not controlled. Habitat improvements such as water developments would still be allowed subject to wilderness constraints.

Desert tortoise habitat would be protected from mining activity and other disturbance by controlling vehicle access. Other desert wildlife would also be protected from habitat loss and human disturbances.

Nondesignation of the unsuitable area would leave 1,440 acres of bighorn sheep habitat open to multiple uses that could cumulatively impact sheep populations. Sheep in this area would be slightly more subject to poaching.

Land Uses

Designation of 61,000 acres as wilderness would preclude future land actions within this area. However, there are no existing or proposed land uses that would be impacted by this alternative.

Rangeland Management

Designation of 61,000 acres would not significantly impact livestock grazing management on portions of five grazing allotments that overlap the WSA. The four ephemeral allotments (Dendora Valley, Gila River Community, Jagow Kreager, and Hazen Sheppard) would not be significantly impacted since these allotments are grazed only when the probability for a favorable ephemeral forage crop exists. Operators on these allotments would not be allowed to construct new rangeland developments to increase utilization of available ephemeral forage after designation occurs. Gable-Ming, a perennial-ephemeral allotment would not be impacted since no new rangeland developments

are proposed within the WSA boundary. All existing rangeland developments would be maintained using current methods as well as access to these developments.

Releasing 12,930 unsuitable acres from wilderness study would not impact livestock grazing management on those portions of the Hazen Sheppard and Gable-Ming allotments that are overlapped by the WSA because no new rangeland developments are proposed for these allotments.

Cultural Resources

Under this alternative 21,145 acres which have a high probability of containing cultural resources would be beneficially affected (Table S-13). In addition, the Gila Bend Mountains have been identified as having very high religious and subsistence significance to the Yavapai, Maricopa, Pima, and Papago Indians (Cultural Systems Research, Inc., 1978).

Designation of wilderness would limit the potential for surface disturbance and site degradation by decreasing an expected moderate amount of mining and road construction. Often a wilderness area is a natural region, such as a mountain range, so designation could aid in preserving entire ecological systems on which prehistoric settlement systems were based (Green, 1975). In addition, a number of historic trails that pass through the Gila Bend Mountains would be protected (Connie Stone, personal communication, 1984).

Within the nonsuitable area approximately 5,440 acres are likely to have been used temporarily by prehistoric and historic populations. Nondesignation may result in a moderate amount of site degradation and destruction due to mining and road development.

Protected Plants

Wilderness designation would protect known populations of one special-status plant species and would provide protection for 61,000 acres of plant habitat for an additional two species. Impacts from mining are important considerations because of the mineral potential in this area. Designation would protect special status plant habitat from ORV use in the middle portion of the WSA. The closure of 22.5 miles of vehicle ways would also limit the illegal collection of night-blooming cereus that may occur in the area.

The 12,930 unsuitable acres would be returned to multiple use management. Habitat disturbance is expected from mineral assessment and exploratory activities and from mineral development, including small-scale mining operations.

Recreation and Visual Resource Management (VRM)

Approximately 22.5 of the 31 miles identified as vehicle ways would be closed to ORV use. An estimated loss of 50 motorized related visitor days would be offset by a gain in nonmotorized visitor use of 1,500 visitor days per year. The net increase resulting from designation would thus amount to 1,450 visitor days per year (Table S-14).

In this area, 61,000 suitable acres would be closed to ORV and managed as VRM Class I, and 12,930 acres of nonsuitable lands would be managed as VRM Class IV. Designation would result in a VRM Class change of 4,960 Class III acres to Class I and 56,040 Class IV acres to Class I. The visual resources on 61,000 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-15).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 1,450 visitor days/year. Annual visitor recreation-related expenditures would thus increase by $5,539 (Table S-16), an insignificant amount when viewed on a regional level.

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would potentially forgo if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

NORTH MARICOPA MOUNTAINS (AZ-020-157)

Wilderness Values

None of the North Maricopa Mountains WSA would be designated wilderness under this alternative, resulting in the loss of wilderness protection on 70,468 acres of public land. All WSA lands would be managed under multiple use principles. The WSA's shallow soils and steep slopes make surface disturbance nearly permanent and highly noticeable.

Nondesignation would permit mineral exploration and development. All mining operations would be free from wilderness constraints. Numerous placer and lode claims occur throughout the WSA. Surface disturbance from assessment work and mining operations are likely over the long term which would adversely impact the WSA's naturalness and scenic values.

New mine roads would further increase ORV use in the area, and would reduce opportunities for solitude and primitive recreation in a natural setting. A one-half-mile-wide utility corridor is proposed along existing rights-of-way that forms the western and northern borders of the WSA. Future utility construction here is likely and would somewhat impair wilderness values.

The 48,708 acre mountainous portion of this WSA would continue to be managed under VRM Class II standards. These standards allow projects that would only slightly change the landscape. The WSA's lower elevation bajadas and plains would be managed under standards that would pose fewer restrictions on the layout, design, and construction of projects thereby making these areas more susceptible to damage.

Minerals and Energy

Nondesignation would have a beneficial impact on minerals because it allows exploration and development of the WSA's mineral and energy potential. Nondesignation would also allow present claimants to further develop their mining claims subject to less stringent 3809 mining regulations.

Wildlife

Under the *Proposed Action* no wilderness would be designated on 28,190 acres of crucial desert bighorn sheep habitat. The impacts of nondesignation would be significantly negative for bighorn sheep because mining and ORV use would remain relatively unconstrained. About 7,050 acres of crucial desert tortoise habitat would also be exposed to mining and motorized recreation activities.

In the absence of wilderness designation, cumulative long-term adverse impacts of mineral exploration and ORV use would be significant for wildlife in general and bighorn sheep and desert tortoise in particular.

Land Uses

Nondesignation of this WSA would not impact the lands program.

Rangeland Management

Nondesignation would not impact the portions of four perennial-ephemeral allotments that overlap this WSA (Hazen, Bighorn, Conley, and Beloat).

Cultural Resources

The 17,880 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. In addition, the historic Butterfield Stage Route, which lies along the southern boundary of this WSA, and probable historic campsites associated with this route would not have added protection. Prehistoric limited activity sites and historic settlements have been recorded here. Also, the Maricopa Mountains were identified as having significance to the Pima, Sand Papago, and Maricopa Indians (Cultural Systems Research, Inc., 1978). Mining, road construction, and ORV use would pose a threat to the above cultural resources.

Protected Plants

The WSA is considered to have a moderate potential for mineral development; therefore some disturbance of habitat for three special-status plant species is likely from mining assessments, exploration, and operations. The area also has a high potential for habitat disturbance from ORV use.

Recreation and Visual Resource Management (VRM)

No impacts to recreation use are anticipated from nondesignation of this area as use is expected to continue along present trends.

The 48,708 acres of public lands would continue to be managed as VRM Class II, 14,720 acres as VRM Class III, and 7,040 acres as VRM Class IV. The visual resources of 70,468 acres would not be afforded as much protection under these present classifications as under the more restrictive wilderness guidelines of VRM Class I (Table S-15).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends as would the yearly revenue collected by BLM for oil and gas leases.

SOUTH MARICOPA MOUNTAINS (AZ-020-163)

Wilderness Values

None of the South Maricopa Mountains WSA would be designated wilderness under this alternative, resulting in the loss of wilderness protection on 71,320 acres of public land which would be returned to multiple use management.

Nondesignation could have short- and long-term adverse impacts on the WSA because land uses detrimental to its wilderness values could be permitted. The South Maricopa Mountains WSA would be particularly vulnerable to surface-disturbing activities like mining, motorized vehicle use, and utility line construction. The area's shallow soils and rocky terrain make major surface disturbances highly noticeable.

Nondesignation would permit mineral exploration and development with associated road building and surface disturbance on the area's 383 mining claims. Large portions of the WSA are considered to have a low potential for mineral development. Bajada areas could also have their natural character impaired by strip mining of placer claims, which was proposed on nearby plains in the North Maricopa Mountains.

ORV use would continue to cause little impact to the area as a whole, as ORVs are now restricted to the vehicle ways and some washes. The WSA's desert plain areas however, would be easily traversed and damaged by increased levels of cross-country vehicle use.

The 48,708 acre mountainous portion of this WSA would be fairly well protected because the mountains would continue to be managed under VRM Class II standards. Development proposals under Class II are restrictive and management objectives allow little or no evident change in the landscape. Lower elevation bajada and plain areas would be managed under less restrictive VRM Class III (9,760 acres) and Class IV standards (13,600 acres), which impose few restrictions on layout, design, and construction of projects.

Minerals and Energy

Nondesignation would have a beneficial impact for the minerals industry, as it would allow for exploration and development of all potential minerals and energy resources under the less stringent 3809 mining regulations.

Wildlife

Under the *Proposed Action* no wilderness would be designated on 42,800 acres of desert bighorn sheep habitat. The impact of nondesignation would be significantly negative for bighorn sheep in this area. In addition, 17,830 acres of crucial desert tortoise habitat would be exposed to habitat disturbances from mining activity and motorized recreation.

Other desert wildlife would be negatively impacted from nondesignation by habitat loss and human disturbance. It is anticipated that both mineral exploration and ORV use would increase over the long term. In the absence of wilderness designation cumulative long-term adverse impacts from these activities would be significant for wildlife in general and bighorn sheep and desert tortoise in particular.

Land Uses

The lands program would not be impacted by nondesignation.

Rangeland Management

The WSA portions of three perennial-ephemeral allotments (Bighorn, Conley, and Lower Vekol) would be released from wilderness study and would return to multiple use management. No impacts to the allotments would occur as a result of nondesignation.

Cultural Resources

The 14,040 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. To date, only temporary prehistoric use of this WSA has been identified. However, the Maricopa Mountains were identified as having cultural significance to the Pima, Sand Papago, and Maricopa Indians (Cultural Systems Research, Inc., 1978). These resources are expected to maintain their integrity due to an expected lack of threatening agents.

Protected Plants

With nondesignation the habitat protection provided by wilderness status would not apply to this area. The

WSA is considered to have some potential for mineral development. Some disturbance of potential habitat for three special-status plant species may occur from assessment and exploratory activities and from small-scale mining operations.

Recreation and Visual Resource Management (VRM)

No impacts to recreation use are anticipated from the nondesignation of this area as recreation use is expected to continue along present trends and 71,320 acres would remain open to ORV use. The 47,960 acres of public lands would continue to be managed as VRM Class II, 9,760 acres as VRM Class III, and 13,600 acres as VRM Class IV. The visual resources of 71,320 acres would not be afforded as much protection under the present classifications as under the more restrictive guidelines of VRM Class I that are required by wilderness (Table S-15).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends. The yearly revenue collected by BLM for oil and gas leases in this WSA would not be affected.

BUTTERFIELD STATE MEMORIAL (AZ-020-164)

Wilderness Values

None of the Butterfield Stage Memorial WSA would be designated wilderness under this alternative, resulting in the loss of wilderness protection on 9,566 acres of public land. Nondesignation could have short- and long-term adverse impacts to the WSA because land uses detrimental to its wilderness values could be permitted. Because of the WSA's small size, any developments or surface disturbances would be noticeable over the entire WSA.

Under nondesignation, ORV use would probably not impact wilderness values as existing ORV use is confined to trails. Although mineral potential is considered low, 81 lode and placer claims are located in the WSA. Surface disturbance from assessment work and exploration is possible. Placer strip mine operations have been proposed on desert plains adjacent to the WSA. It is likely that wilderness values would somewhat diminish under nondesignation as a result of mining operations.

Scenic values would be maintained over most of the WSA with management under a VRM Class II standard. These standards require that developments not be highly noticeable.

Minerals and Energy

Nondesignation would have a beneficial impact to the mineral industry as exploration and development of all potential minerals and energy resources would be allowed.

Wildlife

Under the *Proposed Action* 6,310 acres of desert bighorn sheep habitat would not be afforded the additional habitat protection provided by wilderness.

Nondesignation would have somewhat negative impacts for bighorn sheep and desert tortoise in this WSA. Habitat for these two species would be exposed to the limited amount of mineral activity that is expected under nondesignation.

Other desert wildlife would also suffer somewhat from nondesignation, since habitat loss and human disturbance negatively affect all wildlife to various degrees. It is anticipated that mineral exploration would increase over the long term. In the absence of wilderness designation cumulative long-term adverse impacts of these activities would be negative for wildlife in general and bighorn sheep and desert tortoise in particular.

Land Uses

The lands program would not be impacted by the nondesignation of this WSA.

Rangeland Management

Small portions of two perennial-ephemeral allotments (Bighorn and Conley) would be released from wilderness study and would return to multiple use management. No impacts to these allotments are expected under nondesignation.

Cultural Resources

The 4,480 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. To date, only isolated prehistoric features have been recorded, but there is a high probability that temporary historic camps are located along the Butterfield Stage Route. ORV use would pose a moderate threat to these historic resources under nondesignation.

Protected Plants

With nondesignation the additional habitat protection for three special-status plant species provided by wilderness status would not apply. Although large-scale mineral development is not expected in this WSA, some protected plant habitat disturbance would result from assessment and exploratory activities. Additional habitat disturbance is likely from ORV use.

Recreation and Visual Resource Management (VRM)

No impacts to recreation use is anticipated under nondesignation of this area as recreation use is expected to continue along present trends. In addition, 9,566 acres would remain open to ORV use. About 9,246 acres of public land in the area would continue to be managed as VRM Class II, and 320 acres managed as VRM Class III. The visual resources of 9,566 acres would not be afforded as much protection under the present classifications as under the more restrictive guidelines of VRM Class I (Table S-15).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends and the yearly revenue collected by BLM for oil and gas leases in this WSA would not be affected.

TABLE TOP MOUNTAINS (AZ-020-172)

Wilderness Values

Designation of 34,400 acres of the Table Top Mountains WSA would ensure the preservation of its wilderness characteristics. A total of 3,568 acres would be returned to other multiple use management by this alternative.

None of the WSA's wilderness characteristics would be affected by the *Proposed Action* boundary adjustments. The *Proposed Actions* boundary would preserve the Table Top Mountains' scenery, unique plant communities, wildlife habitats, and outstanding opportunities for solitude and primitive recreation. Challenging and scenic wilderness hikes, including an old trail to the summit of Table Top, would be preserved.

Wilderness designation would have significant beneficial impacts on scenic and visual resources, both in and outside the WSA. Table Top Mountain is a prominent natural landmark visible from much of southwestern Arizona. Designation would ensure that natural vistas seen daily by thousands of motorists driving along Interstate 8 would remain unimpaired.

Designation would protect the WSA's botanical, wildlife, and scenic values. In view of the WSA's mineral potential it is likely that these values would be threatened in the future if the area were not designated.

The area recommended suitable is considered manageable as wilderness over the long term. The only potential conflict exists with mining claims in portions of the WSA's western half. If valid claims were established and development occurred, impacts would be localized since most claims are located near the western and northwestern edges of the WSA's suitable boundaries.

The *Proposed Action* would return 3,568 acres to other multiple use management. Over the long term surface-disturbing land uses, primarily mining of placer deposits and motorized vehicle use, would likely impair wilderness values in this undesignated portion.

Minerals and Energy

The *Proposed Action* would have a negative impact on the minerals industry because this area is particularly high in mineral potential. Wilderness designation of this area would severely restrict all forms of mineral exploration and development in the area proposed for designation. In addition, no new claims and leases would be allowed. Table S-10 shows the number of mining claims in the portion of this WSA proposed for designation.

Wildlife

Under the *Proposed Action,* 22,780 acres of crucial bighorn sheep habitat would be protected from motorized recreation and mining (Table S-11). Control of vehicle access would reduce poaching of bighorn sheep. Habitat improvements, such as water developments, would still be allowed subject to wilderness constraints. In addition, 4,700 acres of crucial desert tortoise habitat would be protected (Table S-12) and tortoise would be better protected from overcollection. Two isolated disjunct populations of giant spotted whiptail and Ajo Mountain whipsnake would also be protected from cumulative surface disturbance. On the unsuitable lands, 1,000 acres of crucial tortoise habitat would remain open to multiple use activities.

Land Uses

Designation of 34,400 acres would preclude future land actions within this area. However, there are no existing or proposed land uses that would be impacted by this alternative and no utility corridors are proposed in the WSA.

Rangeland Management

Designation of 34,400 acres as wilderness would not significantly impact livestock grazing management on the portions of three perennial-ephemeral allotments (Table Top, Vekol, South Vekol) that overlap the WSA. Livestock grazing as it currently exists would be allowed to continue. All reservoirs, wells, and fences would be maintained by conventional means as long as no degrading impacts to wilderness would result.

Releasing the unsuitable acres from wilderness study would not impact livestock grazing on that portion of the Vekol allotment that overlaps this unsuitable portion.

Cultural Resources

Under this alternative 13,195 acres which are likely to yield cultural resources would be beneficially affected (Table S-13). The Table Top Mountains' Hohokam villages and temporary use sites are in good condition and would benefit from wilderness designation. Designation would also limit the potential for surface disturbance by decreasing mining, road construction, and ORV use. Designation could aid in preserving a mountain range in which entire prehistoric settlement systems may have been based (Green, 1975).

Protected Plants

This WSA contains some of the highest botanical values found in the Lower Gila South RMP/EIS area. Wilderness designation would provide protection for 34,400 acres that include a state proposed natural area and potential habitat for three special-status plant species. Some habitat disturbance from ORV use is likely if the area is not designated. The closure of vehicle ways would limit the illegal collection of night-blooming cereus. The WSA is considered to have high mineral potential. Considerable habitat disturbance would be expected from assessment work, exploratory activities, and mineral development involving small-scale mining operations if this area is not designated.

About 3,568 unsuitable acres would return to multiple use management. Protected plant habitat disturbance would be expected in this area from ORV use and mining activities.

Recreation and Visual Resource Management (VRM)

The suitable portion contains 20.8 miles of vehicle ways, 3.25 miles of roads, and 34,400 acres that would be closed to ORV use. An estimated 300 visitor days attributable to motorized related recreation use would be lost, but wilderness designation is expected to increase wilderness visits by about 1,000 visitor days per year. Thus an overall increase of 700 visitor days would be expected (Table S-14).

There would be 34,400 suitable acres managed as VRM Class I, 320 acres as Class II, 1,280 acres as Class III, and 1,968 acres as Class IV. This represents a VRM classification change of 26,608 Class II acres, 5,600 Class III acres, and 2,192 Class IV acres to a Class I VRM classification. The visual resources of 34,400 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-15).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use by 700 visitor days/year. Annual recreation related expenditures would thus increase by $2,674, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

Resource Production (No Wilderness) Alternative

NEW WATER MOUNTAINS (AZ-020-125)

Wilderness Values

None of the New Water Mountains WSA would be designated wilderness under this alternative, resulting in the loss of wilderness protection on 40,375 acres of public land. All lands would be returned to multiple use management.

Nondesignation could have short- and long-term adverse impacts on the WSA because land uses detrimental to its wilderness values could be permitted. The New Water Mountains WSA would be extremely sensitive to surface disturbances by mining, motorized vehicles, or rights-of-way construction due to its shallow soil, steepness of the land, and slow weathering and natural rehabilitation processes.

Most of the WSA is now under a withdrawal application and is closed to mineral entry. If the withdrawal application is approved, the WSA would be permanently closed to mineral entry and no loss of wilderness values would be expected in the long term.

If the withdrawal application is not approved then mining would be permitted, and would likely occur because of the areas' mineral potential. Mineral development would impair existing wilderness and supplemental values. Mining roads would improve vehicle access and thereby increase ORV use on previously remote areas. This increased use would negatively impact the WSA's supplemental values.

A half-mile segment of the WSA, paralleling Interstate 10 for 4.5 miles, would be designated a utility corridor. Utility construction here would negatively impact wilderness values in this area.

Minerals and Energy

Nondesignation would have a beneficial impact on all mineral resources because development and exploration of potential minerals would be allowed.

Wildlife

Under this alternative 34,320 acres of crucial desert bighorn sheep habitat would be protected in the short term by the withdrawal application currently in effect over most of the WSA. Over the long term the area may be managed as a part of the Kofa National Wildlife Refuge if the the U.S. Fish and Wildlife Service withdrawal application on the area is approved. If the area remains under withdrawal application or the withdrawal application is approved, nondesignation would probably not affect either the bighorn habitat or the 6,680 acres of crucial desert tortoise habitat in the WSA.

If the application for withdrawal is not approved the WSA would be managed under BLM's multiple use principles and mining would be allowed. Mineral activity and its associated road building would significantly impact the area's desert bighorn sheep habitat. This habitat disturbance would be detrimental because bighorn need large areas that are relatively undisturbed to maintain or increase their herd size. Nondesignation would impact other wildlife in the WSA in much the same manner as was described for bighorn.

Land Uses

Nondesignation would not impact existing or future land uses in the WSA.

Rangeland Management

Livestock grazing would not be impacted by the nondesignation of this WSA.

Cultural Resources

The 15,330 acres in this WSA which have a high probability of containing cultural resources would not have the added protection from wilderness designation. A wide variety of site types including permanent and semipermanent habitations representing 9,000 years of occupation have been identified here.

Protected Plants

With nondesignation the additional plant habitat protection provided by wilderness status would not apply. The area has a high potential for mineral development and mineral assessment, exploration, and development work is expected if the current mineral withdrawal application for this area is not approved. Potential habitat

for four special-status plants would be affected by these surface-disturbing activities.

Recreation And Visual Resource Management (VRM)

There would be no impacts to recreation use due to the nondesignation of this WSA, as use is expected to continue along present trends. The 40,375 acres of nonsuitable lands would remain open to ORV use and would be managed as Visual Resource Management Class III lands (Table S-18).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends, as would the yearly revenue collected by BLM from these oil and gas leases.

LITTLE HORN MOUNTAINS WEST (AZ-020-126A)

None of the Little Horn Mountains West WSA (12,660 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

LITTLE HORN MOUNTAINS (AZ-020-127)

None of the Little Horn Mountains WSA (90,430 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

EAGLETAIL MOUNTAINS (AZ-020-128)

Wilderness Values

Under the *Resource Production* alternative, none of the Eagletail Mountains WSA's 117,065 acres would be recommended as suitable for wilderness. All lands

TABLE S-18
VISUAL RESOURCE MANAGEMENT CLASS ACREAGES UNDER RESOURCE PRODUCTION
Bureau of Land Management, Phoenix District, Arizona

WSAs	VRM Classes I	II	III	IV	V	TOTAL WSA ACREAGE
New Water Mountains	0	0	40,375*	0	0	40,375
Little Horn Mountains West	0	0	12,660*	0	0	12,660
Little Horn Mountains	0	0	90,430*	0	0	90,430
Eagletail Mountains	0	0	117,065*	0	0	117,065
East Clanton Hills	0	0	36,560*	0	0	36,560
Face Mountain	0	0	27,575*	0	0	27,575
Signal Mountain	0	0	0	19,640	0	19,640
Woolsey Peak	0	0	4,960	68,970	0	73,930
North Maricopa Mountains	0	48,708	14,720	7,040	0	70,468
South Maricopa Mountains	0	47,960	9,760	13,600	0	71,320
Butterfield Stage Memorial	0	9,246	320	0	0	9,566
Table Top Mountains	0	26,928	6,880	4,160	0	37,968
TOTALS	0	132,842	361,305	113,410	0	607,557

* Denotes public land acreages that have not been classified according to BLM's Visual Resource Management Classes.
SOURCE: VRM 8400 Planning Manual

under wilderness study would be returned to multiple use management.

The Eagletail Mountains' desert landscapes are extremely sensitive to surface disturbances because desert areas are slow to rehabilitate. Thus, surface disturbances in the WSA would be both long lasting and highly noticeable.

Mineral exploration for metallic resources may occur under nondesignation, particularly in the bajada area north of the Eagletail ridgeline, south of Cemetery Ridge, and near old prospects in the WSA's southwest corner. Exploration would impair the area's naturalness, solitude, and primitive recreation qualities in the affected portions. Road building and mining on the south side of the Eagletails would be noticeable throughout wide areas and would damage scenic vistas.

The placing of powerlines or additional pipelines in the proposed utility corridor bordering the WSA would impair the WSA's naturalness. Restricting utility construction to the established corridor a half mile on either side of the El Paso Pipeline would help reduce impacts to the WSA, but these impacts would still be noticeable.

Continued motorized vehicle use would only slightly impact the area's naturalness as a whole as long as ORVs use existing trails and washes.

Supplemental wilderness attributes could also be adversely affected as a result of nondesignation. Any decline in the bighorn or cultural resources would result in a significant loss of wilderness values. The presence of bighorn is a major supplemental wilderness value and is considered by many persons to be a strong indicator of the naturalness and wilderness of an area. Preservation of scenic vistas of the Eagletail ridgeline and Courthouse Rock could not be ensured as the area would be managed under a VRM Class III designation.

Minerals and Energy

Nondesignation would have a beneficial impact on all mineral resources development, as it would allow for exploration and development of all potential minerals and energy resources. Mineral development would be regulated under BLM's 3809 mining regulations.

Wildlife

Under this alternative no wilderness would be designated on 70,200 acres of desert bighorn sheep habitat. Mining activity and motorized vehicle use would be allowed. Bighorn sheep could be severely impacted by these activities because sheep are highly sensitive to human intrusions into their domain. It is anticipated that both mineral exploration and ORV use would increase over the long term. In the absence of wilderness designation the negative impacts of these activities would be significant for wildlife in general and bighorn sheep in particular.

Land Uses

Nondesignation would not impact existing or future land use in the WSA.

Rangeland Management

Livestock grazing would not be impacted by the nondesignation of this WSA.

Cultural Resources

The 62,340 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. In addition, certain areas in the Eagletail Mountains have religious significance to the Yavapai and Maricopa Indians (Cultural Systems Research, Inc. 1973). ORV use would pose a low threat to a variety of site types, including one petroglyph site that is eligible for the National Register.

Protected Plants

The Eagletail Mountains contain some of the highest botanical values found within the Lower Gila South RMP/EIS Area. With nondesignation, a state proposed natural area, populations of two special-status plant species, and habitat for an additional two species would not have the added protection afforded by wilderness status. Habitat disturbances from ORV use and mineral assessment and exploratory activities would be likely under multiple use management.

Recreation And Visual Resource Management (VRM)

Under nondesignation recreation use is expected to continue along present trends. The 117,065 acres of public land would remain open to ORV use and would be managed as VRM Class III lands (Table S-18).

Economic Conditions

Recreation Economics. Recreation expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends as would the yearly revenue collected by BLM.

EAST CLANTON HILLS (AZ-020-129)

None of the East Clanton Hills WSA (36,560 acres) would be designated as wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

FACE MOUNTAINS (AZ-020-136)

None of the Face Mountain WSA (27,575 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

SIGNAL MOUNTAIN (AZ-020-138)

None of the Signal Mountain WSA (19,640 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

WOOLSEY PEAK (AZ-020-142/144)

Wilderness Values

None of the Woolsey Peak WSA would be designated wilderness under this alternative, resulting in the loss of wilderness protection on 73,930 acres of public land. All lands would be managed under BLM's multiple use principle.

Nondesignation could have short- and long-term adverse impacts on the Woolsey Peak WSA because land uses detrimental to its wilderness values could be permitted. The Woolsey Peak WSA would be particularly vulnerable to surface disturbing activities like mining and motorized vehicle use. The area's sparse plant cover, shallow soils, and rocky terrain make all types of surface disturbance highly noticeable. Natural rehabilitative processes are slow to occur in arid climates.

Nondesignation would permit mineral exploration and development. Because of the moderate potential for mineral development and the large number of mining claims, mining exploration and development would be expected, which would negatively impact the WSA's scenery, naturalness, solitude opportunities, and wildlife habitats.

ORV use would continue to lightly impact the area as a whole, because ORVs are restricted to the vehicle ways and some washes. Improved access due to other development, however, would expand ORV use and its impact on wilderness values.

Minerals and Energy

Nondesignation would have a beneficial impact on mineral resources development as exploration and development of all potential minerals would be allowed. This development would be regulated under the less stringent 3809 mining regulations.

Wildlife

No wilderness would be designated on 59,680 acres of crucial desert bighorn sheep habitat and low-density desert tortoise habitat.

Cumulative habitat loss and human disturbance affects all wildlife negatively to varying degrees. However, due to the moderate potential for mineral development, it is expected that nondesignation would most impact bighorn sheep. Bighorn need large undisturbed areas in which to live and reproduce, and mining activity allowed under nondesignation would severely impact existing populations.

Land Uses

Nondesignation would not impact existing or future land uses in the WSA.

Rangeland Management

Livestock grazing would not be impacted by the nondesignation of this WSA.

Cultural Resources

The 26,585 acres in this WSA likely to contain cultural resources would not have the added protection afforded by wilderness designation. In addition, the

Gila Bend Mountains have been identified as having very high religious and subsistence significance to the Yavapai, Maricopa, Pima, and Papago Indians (Cultural Systems Research, Inc. 1978). Mining and road construction would pose a low to moderate threat to these significant cultural areas.

Protected Plants

With nondesignation the additional plant habitat protection provided by wilderness status would not apply to the Woolsey Peak WSA, an area supporting populations of one special-status plant species and habitat for two additional species. Because of the potential for mineral development in the Woolsey Peak area habitat disturbance from mining and ORV use is likely in the mid-portion of the WSA.

Recreation And Visual Resource Management (VRM)

Recreation use is expected to continue along present trends and 73,930 acres of land would remain open to ORV use. The visual resources would continue to be managed as 4,960 acres Class III, and 68,970 acres Class IV. The visual resources on 73,930 acres would be less protected under the Class III and Class IV guidelines than if managed under the more restrictive wilderness guidelines of VRM Class I (Table S-18).

Economic Conditions

Recreation Economics. Recreation expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends as would the yearly revenue collected by BLM for these oil and gas leases.

NORTH MARICOPA MOUNTAINS (AZ-020-157)

None of the North Maricopa Mountains WSA (70,468 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action*.

SOUTH MARICOPA MOUNTAINS (AZ-020-163)

None of the South Maricopa Mountains WSA (71,320 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action*.

BUTTERFIELD STAGE MEMORIAL (AZ-020-164)

None of the Butterfield Stage Memorial WSA (9,566 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action*.

TABLE TOP MOUNTAINS (AZ-020-172)

Wilderness Values

None of the Table Top Mountains WSAs 37,968 acres would be recommended as suitable for wilderness under the *Resource Production* alternative. Instead, all WSA lands would be returned to full multiple use management.

The WSA has a moderate potential for the production of metallics (copper) and geothermal resources. Surface disturbances from exploration, assessment work, and possible extraction operations are likely. Mining would impair the area's natural character and diminish the area's attractiveness to visitors seeking solitude and primitive recreation experiences.

ORV use would continue to slightly impact the area as a whole, as ORVs are now restricted by topography to washes and trails. Improved access from mineral development, however, would expand ORV use. Increased ORV use would impair wilderness values, particularly wildlife and solitude opportunities.

The WSA's supplemental resource values would be susceptible to the effects of mining and motorized vehicle use. Any decline in the bighorn would be a significant loss of wilderness values because the presence of bighorn is a major supplemental wilderness value.

Minerals and Energy

Nondesignation would have a beneficial impact on all mineral resources development as it would allow for exploration and development of all potential minerals. This development, however, would be managed under the 3809 mining regulations.

Wildlife

Under this alternative 22,780 acres of crucial desert bighorn sheep habitat and 5,700 acres of crucial desert tortoise habitat would not be afforded the protection provided by wilderness designation. Bighorn sheep would be significantly impacted by nondesignation because sheep would be subjected to developmental type uses such as mineral exploration and development. Desert bighorn are particularly sensitive to human encroachment into their habitat. Other desert wildlife would also suffer somewhat from nondesignation, since cumulative habitat loss and human disturbance affects all wildlife negatively to various degrees.

Land Uses

Nondesignation would not impact land use in the WSA.

Rangeland Management

Livestock grazing would not be impacted by nondesignation of this WSA.

Cultural Resources

The 14,795 acres in this WSA likely to contain cultural resources including both Hohokam villages and temporary use sites, would not have the added protection afforded by wilderness designation. Mining and road construction would pose a moderate threat to the above listed resources.

Protected Plants

This WSA contains some of the highest botanical values found in the Lower Gila South RMP/EIS area. With nondesignation a state proposed natural area and potential habitat for three special status plant species would not have the added protection afforded by wilderness status. Since the WSA is considered to have a high mineral potential, some habitat disturbance is possible from assessment and exploratory activities as well as development involving small-scale mining operations. Under nondesignation, additional habitat disturbance from ORV use is also likely.

Recreation And Visual Resource Management (VRM)

Under nondesignation, recreation use is expected to continue along present trends. The 37,968 acres of nonsuitable lands would remain open to ORV use. Lands in this area would continue to be managed as Class II (26,928 acres), Class III (6,880 acres), and Class IV (4,160 acres), according to the Visual Resource Management Class guidelines. The visual resources on 37,968 acres would be less protected under the Class II, Class III and Class IV guidelines than if managed under the more restrictive guidelines required by wilderness of VRM Class I (Table S-18).

Economic Conditions

Recreation Economics. Recreation use as well as expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. This alternative would allow mineral entry for this WSA under rules established by the 1872 mining law. Thus, nondesignation would not affect mine operating costs. Oil and gas leasing would continue along present trends as would the yearly revenue collected by BLM for these oil and gas leases.

Resource Protection (Enhanced Wilderness) Alternative

NEW WATER MOUNTAINS (AZ-020-125)

The *Resource Protection* alternative would designate 24,120 acres of the New Water Mountains WSA as wilderness and return 16,255 acres to other multiple use management. Impacts would be the same as those described under the *Proposed Action*.

LITTLE HORN MOUNTAINS WEST (AZ-020-126A)

None of the Little Horn Mountains West WSA (12,660 acres) would be designated wilderness under the Resource Protection alternative. Impacts would be the same as those described under the *Proposed Action*.

LITTLE HORN MOUNTAINS (AZ-020-127)

Wilderness Values

Designation of 49,940 acres of the Little Horn Mountains WSA would protect the wilderness values associated with the mountainous southern half of the WSA. A total of 40,490 acres, primarily desert lowlands, would be returned to multiple use management.

Designation would maintain the WSA's opportunities for outstanding solitude and primitive recreation. The boundary adjustments would retain the WSA's most scenic and varied terrain and the majority of its supplemental values would be within wilderness. The overall quality of solitude opportunities would decline slightly because of the smaller area designated and the exclusion of the Ranegras Plain portion of the WSA. Vehicle use along trails in the Ranegras Plain, just north of the suitable boundary, would be occasionally noticeable to visitors in the wilderness and would detract from their solitude opportunities.

Motorized vehicle use, utility rights-of-way construction, and new rangeland developments would be the most likely land uses found in the 40,490 acres not designated. A utility corridor would extend a half mile into the WSA along the four miles of the northern border paralleling the El Paso Natural Gas Pipeline. Utility construction here would impair the naturalness of the immediate area.

Minerals and Energy

Nondesignation of 40,490 acres would have a beneficial impact on the minerals program because exploration and development of all potential minerals would be allowed under the 3809 mining regulations.

The inclusion of 49,940 acres in the wilderness program would have a negative impact on the minerals industry because of the mineral potential of the area. This designation would severely restrict all forms of mineral development on existing mining claims, oil and gas leases, and saleable materials. In addition, no new claims and leases would be allowed in this designation. Table S-10 shows the number of mining claims in this suitable area.

Wildlife

Under the *Resource Protection* alternative 45,320 acres of crucial bighorn sheep habitat (Table S-11) and low-density tortoise habitat would be protected from habitat loss and disturbance caused by motorized recreation and mining. Controlling vehicle access would benefit bighorn and desert tortoise as they would be less susceptible to poaching and overcollection. Other desert wildlife in the suitable area would also be protected from habitat loss and human disturbance. Habitat improvements, such as water developments, would still be allowed subject to wilderness constraints.

Under nondesignation 7,360 acres of bighorn sheep habitat would remain open to habitat disturbances from motorized recreation and mining. Sheep in these areas would also be more subject to poaching.

Land Uses

Designation of 49,940 acres would preclude future land actions within this area. However, there are no existing or proposed land authorizations that would be impacted by the alternative.

Rangeland Management

Designation of 49,940 acres as wilderness would not impact livestock grazing on the 3,520 acres (three percent) of the Ranegras Plain allotment in the WSA, and would not significantly impact the 46,420 acres (25 percent) of the Eagle Tail allotment in the WSA. Several miles of boundary fence are proposed at the extreme northern boundary of the WSA which would serve as an allotment boundary for the two allotments. The fences would be constructed in gaps between mountains, which could also enhance the manageability of the WSA. No known livestock waters exist within the WSA boundary.

Releasing unsuitable acres (40,490 acres) from wilderness study would not impact livestock grazing.

Cultural Resources

Under this alternative approximately 28,655 acres which are likely to yield cultural resources would be beneficially affected (Table S-13). Mining, road construction, and ORV use pose a low to moderate threat to the prehistoric cultural resources in the WSA.

Protected Plants

Wilderness designation would provide protection for 49,940 acres that include populations of two special-status plant species and potential habitat for an additional two species. If the area is not designated, habitat disturbance is likely from mineral assessment and exploratory activities, and from small-scale mining operations. Designation would close the area to ORV use, thereby protecting local populations of night-blooming cereus from illegal collection.

The remaining unsuitable acres (40,940 acres) would revert to other multiple use management. Habitat

disturbance is expected from mining activities and from ORV use in the northern portion of the WSA.

Recreation And Visual Resource Management (VRM)

Designation of this area would close 24 of the 38 miles of vehicle ways in the WSA and 49,940 acres to ORV use. There would be an estimated 500 visitor days per year decrease in ORV-related use in the WSA, and an estimated increase of 1000 visitor days/year of non-motorized recreation use. Thus, overall visitor use would increase by 500 visitor days per year (Table S-14).

The 49,940 acres of suitable lands in this WSA would be managed according to the BLM Visual Resource Management Class I guidelines and 40,490 acres of nonsuitable lands as VRM Class III. The visual resources of 49,940 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-19).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the WSA by 500 visitor days/year. Annual recreation-related expenditures would thus increase by $1,910, an insignificant amount when viewed on a regional level.

Minerals Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

TABLE S-19
VISUAL RESOURCE MANAGEMENT CLASS ACREAGES UNDER RESOURCE PROTECTION
Bureau of Land Management, Phoenix District, Arizona

WSAs	VRM Classes I	II	III	IV	V	TOTAL WSA ACREAGE
New Water Mountains	24,120	0	16,255*	0	0	40,375
Little Horn Mountains West	0	0	12,660*	0	0	12,660
Little Horn Mountains	49,940	0	40,490*	0	0	90,430
Eagletail Mountains	88,660	0	28,405*	0	0	117,065
East Clanton Hills	0	0	36,560*	0	0	36,560
Face Mountain	26,390	0	1,185*	0	0	27,575
Signal Mountain	0	0	0	19,640	0	19,640
Woolsey Peak	61,000	0	0	12,930	0	73,930
North Maricopa Mountains	39,840	15,108	8,800	6,720	0	70,468
South Maricopa Mountains	0	47,960	9,760	13,600	0	71,320
Butterfield Stage Memorial	0	9,246	320	0	0	9,566
Table Top Mountains	34,400	320	1,280	1,968	0	37,968
TOTALS	324,350	72,634	155,715	54,858	0	607,557

* Denotes public land acreages that have not been classified according to BLM's Visual Resource Management Classes.
SOURCE: VRM 8400 Planning Manual

EAGLETAIL MOUNTAINS (AZ-020-128)

Wilderness Values

The *Resource Protection* alternative would recommend wilderness designation for 88,660 acres and would return 28,405 acres to other multiple use management. The enlarged boundaries would enhance management of the area's wilderness values.

Opportunities for solitude and primitive recreation would improve over those represented by the *Proposed Action* because of the larger recommended area. Motorized activities and mining would not be allowed at the base of the Eagletail Mountains as they could under the *Proposed Action*. This would allow wilderness hikes along the base of the escarpment. The rock climbing features and scenery of Courthouse Rock would also be protected by the boundary adjustment.

This area would be manageable as wilderness, but more intensive management (barriers, patrol, closures) would be required to control ORV use along the area's northern and western boundaries. Other manageability concerns would be the same as those described under the *Proposed Action* alternative.

Lands not recommended suitable for wilderness would be subject to the same uses as described for the nondesignated acreage under the *Proposed Action* alternative.

Minerals and Energy

Designation of 88,660 acres would have a negative impact on the mineral resource development in the WSA because of the area's high mineral potential. No new mining claims or oil and gas leases would be allowed under wilderness designation. Table S-10 shows the number of claims in the suitable portion of the WSA. The nondesignation of 28,405 acres would have a beneficial impact on the mineral industry as exploration and development of all potential minerals would be allowed under the 3809 mining regulations.

Climbing Opportunities Are Found On Courthouse Rock—Eagletail Mountains WSA

Wildlife

Under the *Resource Protection* alternative 62,520 acres of crucial bighorn sheep habitat (Table S-11) and low-density desert tortoise habitat would be protected from habitat disturbances caused by mining and ORVs. Controlling vehicle access would benefit bighorn sheep and tortoise because they would be less subject to poaching and overcollection. Other desert wildlife would also be protected from habitat loss and human disturbance. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints.

In the nondesignated portion of the WSA 7,680 acres of bighorn sheep habitat would remain open to habitat disturbances from motorized recreation and mining. Sheep in these areas would also be more subject to poaching.

Land Uses

Designation of 88,660 acres would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by the alternative. This alternative would conflict with approximately five miles of the proposed one-mile-wide El Paso Natural Gas corridor.

Rangeland Management

Impacts to rangeland management would be the same as those described under the *Proposed Action.*

Cultural Resources

Impacts to cultural resources would be the same as those described under the *Proposed Action.*

Protected Plants

The WSA contains some of the highest botanical values found in the Lower Gila South RMP/EIS area. Wilderness designation would provide protection for 88,660 acres that include a state proposed natural area, populations of two special-status plant species and habitat for an additional two species. Some habitat disturbance from ORV use would be likely if the area were not designated. The closure of 63 miles of vehicle ways would limit the illegal collection of night-blooming cereus occurring in this area.

The remaining 28,405 unsuitable acres would revert to other multiple use management. Some habitat disturbance is expected from ORV use and mineral assessment and exploration. This alternative also excludes the north portion of the proposed natural area from wilderness status.

Recreation And Visual Resource Management (VRM)

Designation of this area would close 63 miles of the WSA's existing 106.25 miles of vehicle ways and 88,660 acres to ORV use. An estimated decrease of 800 ORV related visitor days/year is expected. Nonmotorized recreation is expected to increase by 2,000 visitor days/year resulting in an overall visitor use increase of 1,200 visitor days/year (Table S-14).

The 88,660 acres of suitable lands in this area would be managed according to the BLM Visual Resource Management Class I guidelines, and 28,405 acres of nonsuitable lands would be managed as VRM Class III. The visual resources of 88,660 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-19).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the WSA by 1,200 visitor days/year. Annual recreation-related expenditures would thus increase by $4,584, an insignificant amount when viewed on a regional level (Table S-16).

Minerals Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

EAST CLANTON HILLS (AZ-020-129)

None of the East Clanton Hills WSAs 36,560 acres would be designated wilderness under the *Resource Protection* alternative. Impacts would be the same as those described under the *Proposed Action.*

FACE MOUNTAIN (AZ-020-136)

Wilderness Values

The *Resource Protection* alternative would designate 26,390 acres as wilderness and return 1,185 acres to multiple use management. The impacts described under the *Environmental Protection* alternative for Face Mountain WSA would essentially apply to this alternative.

Wilderness values on the lands returned to multiple use management could be damaged over the long term by surface-disturbing land uses. Transmission lines within the proposed utility corridor and small-scale mining operations are the most likely uses.

Minerals and Energy

The proposal to designate 26,390 acres as wilderness would have a negative impact on mineral development. Although this area has low mineral potential, this designation would severely restrict all forms of mineral development. In addition, no new claims or leases would be allowed in this designated area. Table S-10 shows the number of mining claims in the area proposed for designation.

The nondesignation of 1,185 acres would have a beneficial impact on this previously mined area as it would allow exploration and development of all potential minerals under the 3809 mining regulations.

Wildlife

Low-density desert tortoise habitat would be protected from some habitat loss due to mining activity and other disturbance if the suitable area were designated. Overall impacts to tortoise would be slightly positive. Other desert wildlife would also be protected from habitat loss and human disturbance.

Lands Uses

Designation would preclude future lands actions in this area. No existing authorizations would be impacted by this alternative.

Rangeland Management

Designation would not significantly impact livestock grazing on the portions of three grazing allotments that overlap the WSA. The Mariani and Amavisca are both designated as ephemeral and would not be impacted. The Gable-Ming perennial-ephemeral allotment would be allowed to operate at existing authorized livestock use levels. Livestock increases would be allowed only when those increases would not adversely impact wilderness values.

The number of livestock allowed to graze in the WSA is expected to remain at levels existing when the area is designated. Maintenance of existing livestock waters would continue to be allowed. BLM would authorize routes and schedules for routine maintenance of rangeland developments.

Releasing 1,185 unsuitable acres from wilderness study would not impact livestock grazing management on the portions of the Gable-Ming and Mariani allotments that overlap the unsuitable acreage.

Cultural Resources

Under this alternative approximately 8,880 acres which are likely to yield cultural resources would be beneficially affected (Table S-13). These acres include a portion of an extensive archaeological district which stretches throughout the Dendora Valley. Designation of wilderness would limit the potential for surface disturbance by decreasing road/utility construction, ORV use and mining.

Protected Plants

Wilderness designation would protect 26,390 acres of potential habitat for three special-status plant species by prohibiting surface disturbances from mining.

The remaining 1,185 unsuitable acres would revert to other multiple use management. Although the area has a low potential for mineral development some habitat disturbance is expected from mineral assessment and exploratory activities.

Recreation Visual Resource Management (VRM)

Designation would close 15.90 miles of the WSA's 17 miles of vehicle ways and 26,390 acres to ORV use. An estimated decrease of 250 motorized related visitor days per year would be accompanied by an anticipated wilderness user increase of 800 visitor days/year. This designation would result in a net increase of 550 visitor days/year (Table S-14).

The 26,390 acres of suitable lands would be managed according to the BLM Visual Resource Management Class I guidelines, and 1,185 acres of nonsuitable lands as VRM Class III. The visual resources of 26,390 acres

would be better protected through application of the more restrictive VRM Class I guidelines (Table S-19).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the WSA by 550 visitor days/year. Annual recreation related expenditures would thus increase by $2,101 (Table S-16), an insignificant amount when viewed on a regional level.

Minerals Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

SIGNAL MOUNTAIN (AZ-020-138)

None of the Signal Mountains WSA (19,640 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action*.

WOOLSEY PEAK (AZ-020-142/144)

The *Resource Protection* alternative would designate 61,000 acres of the Woolsey Peak WSA as wilderness and return 12,930 acres to multiple use management. Impacts would be the same as those described under the *Proposed Action* for all resources.

NORTH MARICOPA MOUNTAINS (AZ-020-157)

Wilderness Values

This alternative recommends 39,840 acres as suitable for wilderness designation and would return 30,628 acres to multiple use management. The proposed boundaries would protect wilderness and supplemental values associated with the mountainous core of the WSA. Most of the WSAs bajada lands and outwash plains would be excluded by the boundary adjustments.

Both solitude and primitive recreation opportunities would remain outstanding because the WSA's most interesting features, topography, and the majority of its supplemental values fall within the suitable area. Solitude opportunities would slightly decline under this alternative because visitors would be confined to a smaller area and would be more likely to encounter others traversing the canyons and the mountains. Also, the sights and sounds of human activity on the nondesignated bajada areas would likely be noticeable to visitors within the wilderness and would detract from their solitude experiences.

The *Proposed Action* would not designate 30,628 acres of the WSA. Mining, motorized vehicle use, and utility line placement would be the most likely occurring land uses in the unsuitable portion. Much of the nondesignated area has mining claims and the area has a moderate mineral development potential. Mining and associated road building would cause long-term negative impacts to wilderness values.

Minerals and Energy

Wilderness designation for 39,840 acres would have a negative impact on mineral development. In addition, no new claims or oil and gas leases would be allowed with this designation. Table S-10 shows the number of mining claims in the suitable areas.

Nondesignation of 30,628 acres would have a beneficial impact on the development of mineral resources. It would allow exploration and development of all potential minerals and energy resources under the 3809 mining regulations.

Wildlife

Under this alternative 28,190 acres of crucial bighorn sheep and 7,050 acres of crucial desert tortoise habitat would be protected (Table S-11 and S-12) from disturbance caused by motorized recreation and mining. Controlling vehicle access would help prevent bighorn sheep poaching. Habitat improvements, such as water developments, would still be allowed subject to wilderness constraints. Other desert wildlife would also benefit because they would be better protected from habitat loss and human disturbance.

In the unsuitable area 11,090 acres of bighorn sheep habitat would not be afforded the added protection of wilderness. Disturbance from motorized recreation and mining is likely to reduce sheep habitat and thus negatively impact sheep populations. Sheep in these areas would also be more subject to poaching.

Land Uses

Designation of 39,840 acres as wilderness would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by the alternative.

Rangeland Management

Designation would slightly impact livestock in portions of three perennial-ephemeral grazing allotments that overlap the suitable area (Hazen, Bighorn, Conley). The fourth allotment (Beloat) would not be impacted by this proposal.

No new rangeland developments are proposed nor do any exist within the boundaries of the WSA in the Beloat allotment. There are two rangeland developments proposed within the WSA boundaries, a reservoir on the Conley allotment and a well on the Bighorn allotment. These developments would be authorized if they were needed for resource protection and improvement in accordance with BLM's Wilderness Management Policy, but new rangeland developments would not be allowed solely to accommodate more livestock.

No impacts to current livestock operations are anticipated because designation would not prohibit grazing if it occurred before the passage of FLPMA. All existing rangeland developments would continue to be maintained using conventional methods, depending on the type of development. BLM would authorize routes and schedules for routine maintenance of rangeland developments within WSAs. Areas now serviced by motor vehicle might have to be serviced by horses where the use of motor vehicles conflicts with wilderness objectives.

Releasing 30,628 unsuitable acres from wilderness study would be slightly beneficial for the Beloat allotment because wilderness constraints would be dropped. The other three allotments would not be impacted.

Cultural Resources

Under this alternative approximately 4,160 acres which are likely to yield cultural resources would be beneficially affected (Table S-3). In addition to those acres, the entire Maricopa Mountains have been identified as having significance to the Pima, Sand Papago, and Maricopa Indians (Cultural Systems Research, Incorporated, 1978). Also, the historic Butterfield Stage Route which passes through this WSA would have additional protection.

Mining, road construction, and ORV use may pose a low to moderate threat to the WSA's cultural resources. Designation of wilderness would limit the potential for surface disturbance by decreasing road and utility construction, ORV use, and mining. Often a wilderness area is a natural region, such as a mountain range, so designation would aid in preserving entire ecological systems on which prehistoric settlement systems were based (Green, 1975).

An area in the lowland bajadas and gravel terraces north of Sheep Mountain, including 13,700 acres which have a high probability of containing cultural resources, is in the nonsuitable area. Sites recorded here would be subject to deterioration due to an expected moderate amount of mining, road construction, and ORV use.

Protected Plants

Designation would protect 39,840 acres of potential protected plant habitat for three special-status plant species by prohibiting mining and ORV use. The WSA has a high level of ORV use. Closure of vehicle ways under designation would benefit botanical values in this area.

The remaining 30,628 unsuitable acres would revert to multiple use management. ORV use, mineral assessment, exploratory activities, and developments would negatively impact botanical values in the unsuitable portion of the WSA.

Recreation And Visual Resource Management (VRM)

Upon designation, 16.75 miles of the WSA's 35 miles of vehicle ways would be closed and 39,840 acres closed to ORV use. An estimated decrease of 500 ORV-related visitor days/year, accompanied by an estimated increase of 1,000 visitor days/year of nonmotorized recreation use, would result in overall visitor use increase of 500 visitor days/year (Table S-14).

In this area, 39,840 suitable acres would be managed as Visual Resource Management Class I, 15,108 acres as Class II, 8,800 acres as Class III, and 6,720 acres as Class IV. This action represents a VRM classification change of 33,600 Class II acres, 5,920 Class III acres, and 320 Class IV acres to a Class I VRM Classification. The visual resources of 39,840 acres would be better protected through application of the more restrictive wilderness VRM Class I guidelines (Table S-19).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the WSA by 500 visitor days per year. Annual recreation related expenditures would thus increase by $1,910 (Table

S-16), an insignificant amount when viewed on a regional level.

Minerals Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

SOUTH MARICOPA MOUNTAINS (AZ-020-163)

None of the South Maricopa Mountains WSA (71,320 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

BUTTERFIELD STAGE MEMORIAL (AZ-020-164)

None of the Butterfield Stage Memorial WSA (9,566 acres) would be designated wilderness under this alternative. The resource impacts resulting from nondesignation would be the same as those described under the *Proposed Action.*

TABLE TOP MOUNTAINS (AZ-020-172)

The *Resource Protection* alternative would designate 34,400 acres of the Table Top Mountains WSA as wilderness and return 3,568 acres to other multiple use management. The impacts would be the same as those described under the *Proposed Action.*

Environmental Protection (All Wilderness) Alternative

NEW WATER MOUNTAINS (AZ-020-125)

Wilderness Values

Designating all 40,375 acres of this WSA as wilderness would have short- and long-term beneficial impacts on the area's wilderness and supplemental values by limiting or prohibiting land uses not compatible with wilderness preservation. Wilderness would preserve the natural character of an 11-mile segment of the New Water Mountains, as well as its scenic, recreational, botanical, wildlife, and archaeological values.

Designation would maintain outstanding solitude and a wide variety of primitive recreation opportunities. Challenging and extended hikes in a natural setting would remain available. The wildlife and scenic features preserved within this WSA would continue to provide an attractive area for the wilderness recreationist.

Wilderness manageability and resource values would be enhanced by the wilderness resources found in the adjacent administratively endorsed Kofa National Wildlife Refuge wilderness proposal.

Wilderness management of the entire WSA might be difficult over the long term in some areas due to possible conflict with mineral development. Areas near the Ramsey Mine and northwest of Black Mesa are heavily claimed and considered moderately to highly favorable for metallic minerals (Geoexplorers International, Inc., 1982). If mining claims in these areas were found to have valid existing rights, some adverse impacts to wilderness resources could occur. Slight manageability conflicts with ORV use might also occur.

Minerals and Energy

Designation or nondesignation of this WSA will not impact mineral development because the WSA is currently under withdrawal application.

Wildlife

Under this alternative 34,320 acres of crucial bighorn sheep habitat and 6,860 acres of crucial tortoise habitat would be protected (Table S-11 and S-12). Controlling vehicle access would make bighorn sheep less subject to poaching and tortoise less susceptible to overcollection. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would benefit because wildlife favor areas where human disturbance is at a minimum.

Land Uses

Designating 40,375 acres as wilderness would preclude future land actions in this WSA. However, there are no existing or proposed authorizations that would be impacted by this alternative. This alternative would

conflict with the proposed Interstate 10 utility corridor for a distance of about 4.5 miles.

Rangeland Management

Designation of this WSA would not impact livestock grazing management on that portion of the Crowder-Weisser allotment proposed for designation. No new rangeland developments are proposed within the boundaries of the WSA. Any existing rangeland developments that are usable would be allowed to be maintained in accordance with the Wilderness Management Policy.

Cultural Resources

Impacts to cultural resources would be generally the same as those described in the *Proposed Action,* except that an additional 1,280 acres likely to contain cultural resources would be beneficially affected (see Table S-13).

Protected Plants

The beneficial impacts to botanical resources would be generally the same as those described in the *Proposed Action,* except that a larger area (40,375 acres) would be protected.

Recreation and Visual Resource Management (VRM)

In this WSA, 20.7 miles of vehicle ways, 2.75 miles of roads, and 40,375 acres would be closed to ORV use. The majority of the existing recreation uses would be replaced with other forms of nonmotorized recreation activities. Thus, there would be no significant change in visitor use.

The visual resources on 40,375 acres would be managed according to BLM's VRM Class I standards instead of the Class III guidelines, and therefore would be better protected through application of the more restrictive wilderness VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Recreation expenditures made by recreationists visiting this WSA would be expected to continue along present trends.

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values, resulting in additional costs to mine operators and therefore discouraging development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM

TABLE S-20
VISUAL RESOURCE MANAGEMENT CLASS ACREAGES UNDER ENVIRONMENTAL PROTECTION
Bureau of Land Management, Phoenix District, Arizona

WSAs	VRM Classes I	II	III	IV	V	TOTAL WSA ACREAGE
New Water Mountains	40,375	0	0	0	0	40,375
Little Horn Mountains West	12,660	0	0	0	0	12,660
Little Horn Mountains	90,430	0	0	0	0	90,430
Eagletail Mountains	177,065	0	0	0	0	117,065
East Clanton Hills	36,560	0	0	0	0	36,560
Face Mountain	27,575	0	0	0	0	27,575
Signal Mountain	19,640	0	0	0	0	19,640
Woolsey Peak	73,930	0	0	0	0	73,930
North Maricopa Mountains	70,468	0	0	0	0	70,468
South Maricopa Mountains	71,320	0	0	0	0	71,320
Butterfield Stage Memorial	9,566	0	0	0	0	9,566
Table Top Mountains	37,968	0	0	0	0	37,968
TOTAL ACRES	607,557	0	0	0	0	607,557

SOURCE: VRM 8400 Planning Manual

and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

LITTLE HORN MOUNTAINS WEST (AZ-020-126A)

Wilderness Values

Designating all 12,660 acres of the Little Horn Mountains West WSA would have beneficial impacts on wilderness and supplemental values by providing additional protection from surface-disturbing land uses. Wilderness would help preserve this WSA's outstanding opportunities for solitude. In addition, wilderness management of the WSA would complement and enhance the wilderness value of the adjacent Kofa National Wildlife Refuge wilderness proposal.

This area could have wilderness manageability problems due to possible mineral development. Current interest in the WSA's mineral resources is high and the entire WSA is blanketed by mining claims. Development of these claims would make the area unmanageable as wilderness and render substantial portions of the WSA landscape unnatural. The presence of a 40-acre parcel of nonfederal surface and 640 acres of nonfederal minerals near the center of the WSA complicates manageability.

Minerals and Energy

The designation of this historic mining area would have a negative impact on the mineral exploration and development. Designation would severely restrict mining claim staking and oil and gas leasing because no new claims and leases would be allowed if this WSA was designated. Table S-10 shows the number of mining claims located in this WSA.

Wildlife

Under the this alternative 12,660 acres of crucial bighorn sheep habitat and low-density desert tortoise habitat would be protected (Table S-11). Controlling vehicle access would reduce poaching of bighorn sheep. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would also be protected as human disturbances negatively affect all wildlife to varying degrees.

Land Uses

Designation of 12,660 acres would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by this alternative.

Rangeland Management

Designation of 12,660 acres as wilderness would not impact livestock grazing management on the small portions of the three perennial-ephemeral grazing allotments (Crowder-Weisser, Eagle Tail, Ranegras Plain) that overlap the WSA. No livestock waters exist in the WSA and none are proposed.

Cultural Resources

Under this alternative approximately 7,180 acres which are likely to yield cultural resources would be beneficially affected (Table S-13). Designation would limit the potential construction, ORV use, mining, and range developments. Designation would aid in preserving an entire ecological system on which prehistoric settlement systems were based (Green, 1975).

Protected Plants

Wilderness designation would protect 12,660 acres of potential habitat for four special-status plant species by prohibiting surface disturbances caused by mining activities.

Recreation and Visual Resource Management (VRM)

Designation would close five miles of vehicle ways and 12,660 acres to ORV use. The majority of the 500 visitor days/year occurring in the area would be replaced with other forms of recreation use. Overall, a 200 visitor days/year increase is anticipated over the present visitor use (Table S-14).

The visual resources on 12,660 acres would be managed according to the BLM's VRM Class I standards instead of Class III guidelines. The visual resources on these acres will be better protected through application of the more restrictive wilderness VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use by 200 visitor days/year. Annual recreation related expenditures would thus increase by $764 (Table S-16), an insignificant amount when viewed on a regional level.

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This would result in additional costs to mine operators and therefore discourage development.

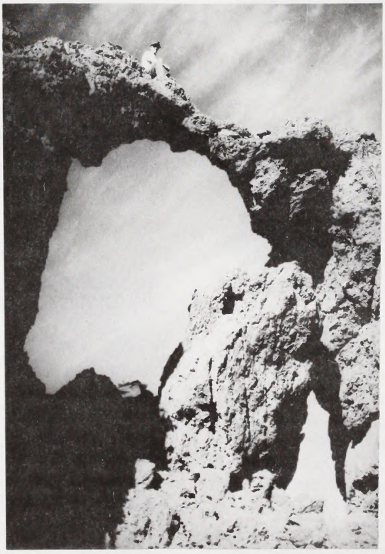
A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year if this WSA were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

LITTLE HORN MOUNTAINS (AZ-020-127)

Wilderness Values

Designation of all 90,430 acres of the Little Horn Mountains WSA would have short- and long-term beneficial impacts on the area's wilderness and associated supplemental values by limiting or prohibiting land uses not compatible with wilderness preservation. Designation would preserve a Sonoran Desert landscape characterized by rugged mesas, peaks, and nearly pristine desert plains. As wilderness, such undisturbed terrain would continue to provide outstanding solitude and primitive recreation opportunities.

Protection of the Palomas Plain, Ranegras Plain, and Hyder Valley portions of the WSA would preserve relatively untracked desert bajada areas. Significant portions of these plains outside the WSA have been scarred by ORVs and military training. Curtailment of vehicle



Royal Arch—Little Horn Mountains WSA

use could be a short-term problem on some of the vehicle ways crossing the desert bajada areas. Such areas lack topographic or other barriers sufficient to discourage casual vehicle use.

Although there are no current resource conflicts, possible mineral conflicts are found near Royal Arch. If exploration or development of numerous mining claims in this area were to occur, wilderness values would be impaired and manageability would be difficult. The BLM would also need to acquire nonfederal inholdings through exchange to improve wilderness manageability.

Minerals and Energy

Designating this historic mining area would have a negative impact on mineral development. Designation would severely restrict all forms of mineral development and oil and gas leasing. In addition, no new claims and leases would be allowed under this designation. Table S-10 shows the number of mining claims located within the WSA.

Wildlife

Under the *Environmental Protection* alternative 59,680 acres of crucial bighorn sheep habitat and some low-density desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11). Controlling vehicle access would benefit bighorn sheep because they would be less subject to poaching. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would also benefit because their habitats would be protected from motorized recreation and mining.

Land Uses

Designation would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by this alternative, except for the proposed El Paso Natural Gas utility corridor. This corridor would extend one-half mile into the WSA along four miles of the boundary.

Rangeland Management

Designation of this WSA as wilderness would not significantly impact livestock grazing on the Ranegras Plain, Crowder-Weisser, and Eagle Tail allotments. Several miles of boundary fence are proposed at the center of the WSA which would serve as an allotment boundary for two allotments. The fences would be constructed in gaps between mountains and would enhance the manageability of the WSA. No new rangeland developments would be built solely to accommodate increased livestock use in the WSA, but developments would be allowed if needed for the resource protection.

Cultural Resources

Impacts to cultural resources would be generally the same as those described under the *Resource Protection* alternative, except that 31,535 acres likely to yield cultural resources would be beneficially affected (Table S-13).

Protected Plants

The beneficial impacts to botanical resources would be generally the same as those described in the *Resource Protection* alternative, except that 90,430 acres of potential special-status plant habitat would be protected.

Recreation and Visual Resource Management (VRM)

Designation would close 38 miles of vehicle ways and 90,430 acres to ORV use. The majority of the motorized recreation use now occurring in the area would be replaced with other forms of recreation use. In addition, a 300 visitor day/year increase would be anticipated (Table S-14).

The visual resources on 90,430 acres would be managed according to BLM's VRM Class I standards instead of Class III guidelines. Visual resources in this area would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness would be expected to increase visitor use in the economic study area by 300 visitor days/year. Annual recreation related expenditures would thus increase by $1,146 (Table S-16), an insignificant amount when viewed on a regional level.

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This would result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows by alternative the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

EAGLETAIL MOUNTAINS (AZ-020-128)

Wilderness Values

Designating all 117,065 acres of the Eagletail Mountains WSA as wilderness would preserve the WSA's wilderness and associated supplemental values. An almost 15-mile segment of the Eagletail Mountains along with eight miles of Cemetery Ridge and large expanses of desert plain would be preserved. Designation would also maintain the WSA's outstanding solitude and primitive recreation opportunities and would preserve the WSA's geologic, scientific, and scenic qualities. Designation would also complement the State Academy of Science's proposed natural area in the Eagletail Mountains because 32,000 acres of the natural area would be included in the WSA.

Portions of the WSA could be difficult to manage as wilderness. Manageability along the northern boundary is complicated by the numerous vehicle ways and trails extending south from the WSA boundary to the base of the Eagletail Mountains. Other WSA areas on the south or west, although accessible by vehicle, are more remote and lack significant vehicle trail systems.

Nonfederal inholdings would pose some management problems. Acquisition of these parcels would eliminate the need to provide access to these parcels and would preclude access development. Acquisition would also protect wilderness, wildlife, cultural, and scenic values on those acquired lands and consolidate federal administration in an area of widely recognized and sensitive resources.

Mineral development on mining claims is also a potential manageability concern. However, most of these claims are on the perimeter of the WSA. It is probable that mineral development would be limited to localized areas and would not affect the overall manageability of the area.

Minerals and Energy

Wilderness designation would have a negative impact on the development of minerals in this potentially high mineral resource area. Designation would severely restrict all forms of mineral development and oil and gas leasing. In addition, no new claims and leases would be allowed under this designation. Table S-10 shows the number of mining claims currently located in this WSA.

Wildlife

Under the *Environmental Protection* alternative 70,200 acres of crucial bighorn sheep habitat and some low-density tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11). Control of vehicle access would benefit bighorn sheep because they would be less subject to poaching. Habitat improvements, such as water developments, would still be allowed subject to wilderness constraints. Other desert wildlife would benefit because most species are adversely affected by any human encroachment into their habitats.

Land Uses

Designation of 117,065 acres would preclude future land actions within this WSA. There are no existing or proposed authorizations that would be impacted by this alternative, except the proposed one-mile-wide El Paso Natural Gas corridor that extends one-half-mile into the WSA for 15 miles.

Rangeland Management

Designation of 117,065 acres as wilderness would not impact livestock grazing on the Ranegras Plain allotment which overlaps 5,075 acres of the WSA or the Clem allotment which overlaps 5,290 acres of the WSA. The remaining portion of the suitable acres (106,700 acres) lie in the Eagle Tail allotment, with about 37 percent of the allotment overlapped by the WSA. No significant impacts to grazing management would occur on this allotment since all existing rangeland developments would be maintained using current methods and access routes. No new rangeland developments are proposed within the WSA boundary except for approximately five miles of allotment boundary fence that would improve manageability of the WSA as well as control livestock movement. The fence is proposed along the extreme northeast boundary of the WSA.

The numbers of livestock allowed to graze in the WSA is expected to remain at levels existing when the area is designated. Livestock increases would be allowed only when increased livestock would not adversely impact wilderness values. New rangeland developments could not be built in WSAs solely to accommodate more livestock, but could be allowed if needed for resource protection.

The Lower Gila Rangeland Monitoring Plan indicates that 30 percent of the Eagle Tail allotments' usable forage is being grazed. Unless livestock numbers are allowed to increase when monitoring shows the forage to exist within the WSA, wilderness designation might prevent BLM and the livestock operator from utilizing the available forage.

Cultural Resources

Impacts to cultural resources would be generally the same as those described in the *Proposed Action,* except that 62,340 acres instead of 55,428 acres would be beneficially affected (Table S-13).

Protected Plants

The beneficial impacts to botanical resources would be generally the same as those described in the *Proposed Action,* except that a total of 117,065 acres of potential protected plant habitat would be designated. This alternative also includes an entire 32,000 acre state proposed natural area.

Recreation and Visual Resource Management (VRM)

Designation would close 106.25 miles of vehicle ways and 117,065 acres to ORV use. There would be an estimated decrease of 1,300 ORV-related visitor days/year from the existing use of 1,500 visitor days/year. This anticipated decrease in visitor use is expected to be offset by an estimated 2,000 visitor days/year increase in nonmotorized recreation use. Overall visitor use is expected to increase by 700 visitor days/year (Table S-14).

The visual resources on 117,065 acres would be managed according to BLM's VRM Class I guidelines instead of the existing Class III guidelines. The visual resources on these acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 700 visitor days/year. Annual recreation related expenditures would thus increase by $2,674, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This might result in additional costs to mine operators and therefore would discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

EAST CLANTON HILLS (AZ-020-129)

Wilderness Values

Designating all 36,560 acres of the East Clanton Hills WSA as wilderness would have short- and long-term beneficial impacts to wilderness and associated supplemental values. Wilderness would provide additional protection to the area's natural qualities, outstanding opportunities for solitude, and primitive recreation. Crucial bighorn sheep habitat, important desert tortoise habitat, and an array of cultural sites would also be protected.

Some manageability problems could result under wilderness designation from mining claim development and motorized vehicle use. Extensive mining claims blanket the northern mountainous portions of the WSA. Topography and vegetation are such that developing these mining claims would create highly noticeable impacts, making management of this portion of the WSA as wilderness questionable.

Motorized vehicles would be difficult to manage near the WSA's south and west boundaries. These boundaries are hard to discern and there is an absence of sufficient topographic features to discourage casual vehicle use.

Minerals and Energy

Designation of this area would have a negative impact on development of the WSA's potentially high mineral resource values. Designation would severely restrict all forms of mineral development and oil and gas leasing. In addition, no new claims or leases would be allowed in this WSA. Table S-10 shows the number of mining claims in this WSA.

Wildlife

Under the *Environmental Protection* alternative 18,280 acres of crucial bighorn sheep habitat and 5,480 acres of crucial desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11 and S-12). Controlling vehicle access would benefit bighorn sheep and desert tortoise because bighorn would be less subject to poaching and tortoise would be less subject to overcollection. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would also be protected from habitat loss and human disturbance. Overall, the impacts of designation would be positive for wildlife in the East Clanton Hills WSA.

Land Uses

Designation of 36,560 acres would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by this alternative.

Rangeland Management

Designation would not significantly impact livestock grazing on the those portions of the Eagle Tail or Palomas allotment that overlap the WSA. The Eagle Tail allotment, a perennial-ephemeral allotment, would be allowed to operate at existing authorized livestock use levels. Existing grazing management practices would be allowed to continue on both allotments. No new rangeland developments are proposed within the WSA boundaries.

Cultural Resources

Under this alternative approximately 11,725 acres which are likely to yield cultural resources would be beneficially affected (Table S-13). Mining and road construction would pose a low threat to these cultural resources in this WSA if the area were not designated. Designation would limit the potential for surface disturbance by decreasing road and utility construction and mining. Often a wilderness area is a natural region, such as a mountain range, so designation would aid in preserving entire ecological systems on which prehistoric settlement systems were based (Green, 1975).

Protected Plants

Wilderness designation would protect 36,560 acres of potential habitat for three special-status plant species by prohibiting surface disturbances from mining and ORV use. If the area is not designated, some habitat disturbance from ORV use is likely in the southern portion of the WSA.

Recreation and Visual Resource Management (VRM)

Designation would close 37 miles of vehicle ways and 36,560 acres to ORV use. The majority of the 400 ORV-related visitor days occurring in the area would be replaced with other forms of recreation use. In addition, a 300 visitor days/year increase is anticipated (Table S-14).

The visual resources on 36,560 acres would be managed according to the BLM's VRM Class I guidelines instead of Class III guidelines. The visual resources on these acres would be better protected through application of the more restrictive wilderness VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 300 visitor days/year. Annual recreation related expenditures would thus increase by $1,146, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This is expected to result in additional costs to mine operators and therefore would discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly nationwide.

FACE MOUNTAIN (AZ-020-136)

Wilderness Values

Wilderness designation of Face Mountain's 27,575 acres would provide short- and long-term benefits to the WSA's wilderness and associated supplemental values. The WSA has opportunities for solitude because of its numerous washes and low hills. This 43-square-mile area with its dense wash vegetation assures the dispersal of visitors, allowing them to avoid the sights and sounds of others. Few other resources or wilderness characteristics would be benefited by wilderness. While the area is nearly pristine, opportunities for primitive recreation are not outstanding. Also, there are no special features to enhance the area's wilderness characteristics.

Minerals and Energy

Wilderness designation would have a negative impact on the development of mineral resources. This designation would restrict all forms of mineral development and oil and gas leasing. In addition, no new claims or leases would be allowed under this designation. Table S-10 shows the number of mining claims in this WSA.

Wildlife

Under this alternative low-density desert tortoise habitat would be protected from habitat loss due to mining and ORV activities. Controlling vehicle access would benefit tortoise because they would be somewhat better protected from overcollection. Other desert wildlife would also be somewhat better protected from human disturbances.

Land Uses

Designation of 27,575 acres as wilderness would preclude future land actions within this area. There are no existing or proposed authorizations that would be impacted by this alternative, except that wilderness designation would conflict with 5.5 miles of the proposed one-mile-wide San Diego Interconnect utility corridor.

Rangeland Management

Designating 27,575 acres as wilderness would not significantly impact livestock grazing on the three grazing allotments that overlap the WSA. The Mariani and Amavisca allotments are both designated as ephemeral and would not be impacted. The perennial-ephemeral Gable-Ming allotment would be allowed to operate at existing authorized livestock use levels.

Livestock increases would be allowed only when increased livestock would not adversely impact wilderness. Therefore, the numbers of livestock allowed to graze in the WSA are expected to remain at existing levels. Maintenance of existing livestock waters would be allowed. BLM would authorize routes and schedules for routine maintenance of existing rangeland developments.

Cultural Resources

Impacts to cultural resources would be the same as those described under the *Resource Protection* alternative, except that 9,180 acres that are likely to contain cultural resources would be beneficially affected (Table S-13).

Protected Plants

The impacts to botanical resources would be generally the same as those described under the *Resource Protection* alternative, except that 27,575 acres of potential habitat for protected plants would be included in the designated area.

Recreation and Visual Resource Management (VRM)

About 17 miles of vehicle ways and 27,575 acres would be closed to ORV use. The existing ORV-related recreation use of 300 visitor days/year would be replaced by other forms of nonmotorized recreation use. In addition, it is anticipated that recreation use would increase by 500 recreation days/year (Table S-14).

The visual resources on 27,575 acres would be managed according to BLM's VRM Class I guidelines instead of Class III guidelines. The visual resources on these acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 500 visitor days/year. Annual recreation related expenditures would thus increase by $1,910, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This is expected to result in additional costs to mine operators and would therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows by alternative potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly (Table S-17).

SIGNAL MOUNTAIN (AZ-020-138)

Wilderness Values

Designation of all 19,640 acres of the Signal Mountain WSA as wilderness would have short- and long-term beneficial impacts on its wilderness and supplemental values by restricting and prohibiting land uses not compatible with wilderness preservation.

Designation would maintain the WSA's outstanding solitude and primitive recreation opportunities. The WSA's colorful geologic features would continue to provide an attractive area for the wilderness recreationist. Wilderness designation would provide long-term beneficial impacts to the WSA's wildlife habitats, cultural resources, protected plants, and scenic and visual resources by providing additional protection.

The WSA would be manageable as wilderness. Manageability concerns include the possible development of mining claims along the WSA's northern border and possible mineral developments on two nonfederal mineral inholdings. Acquisition of nonfederal mineral estate would be needed to ensure wilderness manageability because more identifiable boundaries could be identified and the development of these nonfederal mineral parcels would be precluded.

Minerals and Energy

Designating this area as wilderness would have a negative impact on the potentially high mineral resources in the WSA. Designation would severely restrict all forms of mineral development and oil and gas leasing. In addition, no new claims or leases would be allowed in the designated area. Table S-10 shows the number of mining claims currently located in this WSA.

Wildlife

Under this alternative 7,860 acres of crucial bighorn sheep habitat and 980 acres of crucial desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining. Controlling vehicle access would benefit bighorn sheep because bighorns would be less subject to poaching, and tortoise would be less subject to overcollection. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would also benefit from designation because they would be better protected from habitat loss and human disturbances.

Land Uses

Designation of 19,640 acres would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by this alternative, except for six miles of the proposed one-mile-wide San Diego Interconnect utility corridor.

Rangeland Management

Designation of 19,640 acres as wilderness would not significantly impact livestock grazing management on small portions of the Gable-Ming perennial-ephemeral allotment that overlaps this WSA. This livestock operation would be allowed to continue grazing practices now occurring within the WSA boundary. Currently, no rangeland developments exist or are proposed, except for four miles of vehicle way and an allotment boundary fence along the southeastern boundary of the WSA. Maintenance of the fence would not be affected by wilderness designation.

Cultural Resources

Under this alternative approximately 3,490 acres which are likely to yield cultural resources would be beneficially affected (Table S-13). Designation would protect isolated prehistoric temporary use sites and a possible permanent habitation site in the WSA's lowland terraces. In addition, designation would protect portions of the Gila Bend Mountains which have been identified as having very high religious and subsistence significance to the Yavapai, Maricopa, Pima, and Papago Indians (Cultural Systems Research, Inc., 1978).

Mining and road construction would pose a moderate threat to these cultural resources if the area is not

designated. Designation of wilderness would limit the potential for surface disturbance by decreasing road and utility construction and mining. Often a wilderness area is a natural region, such as a mountain range, so designation would aid in preserving entire ecological systems on which prehistoric settlement systems were based (Green, 1975).

Protected Plants

Wilderness designation would protect 19,640 acres of potential habitat for four special-status plant species by eliminating surface disturbances from mining activities. Impacts from mining are likely if the area is not designated because of the WSA's high mineral potential and the tact that 27 percent of the WSA is covered by mining claims.

Recreation and Visual Resource Management (VRM)

Designation would close 5.75 miles of vehicle ways and 19,640 acres to ORV use. Virtually all of the ORV-related recreation use now occurring in the area would be replaced by other forms of nonmotorized recreation use. Recreation use is expected to increase by 300 visitor days/year (Table S-14).

The visual resources on 19,640 acres would be managed according to BLM's VRM Class I guidelines instead of Class IV guidelines. The visual resources on these acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the WSA by 300 visitor days/year. Annual recreation related expenditures would thus increase by $1,146 an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This would result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

WOOLSEY PEAK (AZ-020-142/144)

Wilderness Values

The *Environmental Protection* alternative would recommend designation of all 73,930 acres of Woolsey Peak as wilderness. Designation would have long-term beneficial impacts on the WSA's wilderness and associated supplemental values by restricting or prohibiting land uses not compatible with wilderness preservation.

Designation would protect over 18 miles of the Gila Bend Mountains. Excellent opportunities for solitude and primitive recreation would be maintained by wilderness designation. Wilderness would ensure the preservation of the WSA's natural landscapes, including Woolsey Peak—the highest point in the Gila Bend Mountains and a major geographic and scenic landmark.

The Woolsey Peak WSA is manageable as wilderness under this alternative. However, conflicts with motorized recreation use may occur on the eastern side of the WSA where there are concentrations of cherrystem roads, vehicle ways and old prospects. Intensive management would be required in this area to regulate motorized vehicles. A moderate potential for mineral development in the southeastern part of the unit is also a possible future conflict in the area.

Minerals and Energy

The designation of this area as wilderness would have a negative impact on development of the WSA's potentially high minerals resources. This designation would severely restrict all forms of mineral development on existing mining claims, oil and gas leases, and saleable materials. In addition, no new claims and leases would be allowed.

Wildlife

Under this alternative 59,680 acres of crucial bighorn sheep habitat and some low-density desert tortoise habitat would be protected from disturbances caused by motorized recreation and mining. Controlling vehicle access would benefit bighorn sheep and desert tortoise because they would be less subject to poaching and overcollection. Habitat improvement, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would also benefit because they would be protected from habitat loss and human disturbance.

Land Uses

Designation of 73,930 acres as wilderness would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by this alternative.

Rangeland Management

Designation of this WSA would not significantly impact livestock grazing on the five grazing allotments that overlap the WSA (one perennial-ephemeral allotment and four ephemeral allotments). The four ephemeral allotments (Dendora Valley, Gila River Community, Jagow Kreager, and Hazen Sheppard) would not be significantly impacted because these allotments would continue to be managed in accordance with the Special Ephemeral Rule published December 1968. However, operators on these allotments would not be allowed to construct new rangeland developments to increase available ephemeral forage utilization after designation. This may result in underutilization of available forage. The Gable-Ming allotment would not be impacted since no new rangeland developments are proposed within the WSA boundary. All existing rangeland developments would be maintained using current methods.

Cultural Resources

Impacts to cultural resources would be generally the same as those described in the *Proposed Action,* except that 26,585 acres instead of 21,145 acres would be beneficially affected (Table S-13).

Protected Plants

The beneficial impacts to botanical resources would generally be the same as those described in the *Proposed Action,* except that 73,930 acres of potential special-status plant habitat would be protected.

Recreation and Visual Resource Management (VRM)

The designation of this area would close 73,930 acres and 31 miles of vehicle ways to ORV use. Recreation use is expected to increase by 800 visitor days/year upon designation (Table S-14).

Designation would reclassify 4,960 VRM Class III acres and 68,970 VRM Class IV acres to VRM Class I acres. The visual resources on 73,930 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designation is expected to increase visitor use in the WSA by 800 visitor days/year. Annual recreation related expenditures would thus increase by $3,056, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

NORTH MARICOPA MOUNTAINS (AZ-020-157)

Wilderness Values

The *Environmental Protection* alternative would designate all 70,468 acres of the WSA as wilderness. Designation would have short- and long-term beneficial impacts on the WSA's wilderness and associated supplemental values by prohibiting or restricting land uses not compatible with wilderness preservation.

Designation would preserve a 10-mile-long segment of the North Maricopa Mountains as well as extensive portions of surrounding outwash plains and bajadas. Preservation of this natural landscape would ensure the continuation of outstanding solitude and primitive recreation opportunities. As wilderness, this area's large size and complex rugged topography would also continue to provide extended hiking, camping, sightseeing, and horse pack trips in a natural secluded setting.

The area proposed for designation under this alternative could have manageability problems. Much of the WSA has placer and lode claims. Should the claims prove to be valid and are developed, adverse impacts to wilderness values would occur. Presently, none of these claims are producing. Four state sections (2,560 acres) of nonfederal mineral rights are within the area. Development of these parcels and associated access requirements could greatly impair wilderness values. Off-road vehicle use would be difficult to control because

Morning Haze In The Maricopa Mountains—North Maricopa Mountains WSA

the wilderness boundaries lack terrain features sufficient to discourage use, particularly across the plain and bajada areas. Numerous cherrystem roads into the WSA complicate this problem.

Minerals and Energy

The designation of this area as wilderness would have a negative impact on development of the mineral resources in the WSA. Designation would severely restrict all forms of mineral and energy development. In addition, no new claims and leases would be allowed under this designation. Table S-10 shows the number of mining claims currently located in this WSA.

Wildlife

Under this alternative, 39,280 acres of crucial bighorn sheep habitat and 7,050 acres of crucial desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11 and S-12). Controlling vehicle access would benefit bighorn sheep and desert tortoise because bighorn would be less subject to poaching and tortoise less subject to overcollection. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints.

Land Uses

Designation would preclude future land actions within this area. However, there are no existing or proposed authorizations that would be impacted by this alternative, except for two proposed one-mile-wide utility corridors—eight miles of the El Paso corridor and six miles of the Liberty-Gila Bend corridor that cross the WSA boundaries.

Rangeland Management

Designation would slightly impact livestock grazing on four allotments designated as perennial-ephemeral (Bighorn, Hazen, Beloat, Conley). There are three rangeland developments proposed in the WSA boundaries: a reservoir on the Conley allotment, a well in the Bighorn allotment, and several miles of fence in the

Beloat allotment. These would be allowed if they are needed for resource protection and improvement, however, new rangeland developments would not be allowed solely to accommodate more livestock.

No impacts to current livestock operations on the four allotments are anticipated. All existing rangeland developments would continue to be maintained using conventional methods. However, BLM would authorize routes and schedules for routine maintenance of these rangeland developments. Also, areas now serviced with motor vehicles might have to be serviced by horses where the use of motor vehicles is determined to conflict with wilderness objectives.

Cultural Resources

Under this alternative approximately 17,880 acres likely to contain cultural resources would be beneficially affected (Table S-13). This alternative would afford the same benefits to cultural resources as discussed under the *Resource Protection* alternative. However, under this alternative sites in the lower bajadas and gravel terraces would be protected. The Maricopa Mountains would also be afforded added protection by wilderness designation. These mountains have religious significance to a variety of Indian groups. Site types expected here are indicative of temporary prehistoric use such as seasonal hunting and gathering.

Protected Plants

The beneficial impacts to botanical resources would be generally the same as those described in the *Resource Protection* alternative, except that 70,468 acres of potential special-status plant habitat would be protected.

Recreation and Visual Resource Management (VRM)

The designation of this area would close 70,468 acres and 35 miles of vehicle ways to ORV use. Approximately one-half of the existing use in the area is considered to be ORV-related and as such would be replaced by other forms of recreation. It is estimated there would be a net increase of 500 visitor days/year upon designation (Table S-14).

Designation would reclassify the existing 48,708 VRM Class II acres, 14,720 VRM Class III acres, and 7,040 VRM Class IV acres to VRM Class I. The visual resources on 70,468 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 500 visitor days/year. Annual recreation related expenditures would increase by $1,910, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows by alternative the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

SOUTH MARICOPA MOUNTAINS (AZ-020-163)

Wilderness Values

The *Environmental Protection* alternative would designate all 71,320 acres of the South Maricopa Mountains WSA as wilderness. Designation would have short- and long-term beneficial impacts on the WSA's wilderness and associated supplemental values by restricting land uses not compatible with wilderness preservation.

Designation would protect 13 miles of the southern portion of the Maricopa Mountains, including lengthy desert washes and large desert bajadas. Wilderness designation would maintain the WSA's opportunities for solitude and primitive recreation provided by the unit's large size and landforms.

The foremost manageability question would be the possible conflict with potential mineral values present in parts of the WSA. Portions of the WSA are favorable for metallics, geothermal energy, and uranium resources. Numerous mining claims are within the WSA and many are located in the desert bajada areas. If these claims contain economic reserves and are developed, effective wilderness management would be questionable. Mineral development potential is presently considered low, however.

Minerals and Energy

The designation of this area would have a negative impact on the development of mineral resources. Designation would severely restrict all forms of mineral and

energy development. In addition, no new claims and leases would be allowed in this designated wilderness area. Table S-10 shows the number of mining claims currently located in the area proposed for designation.

Wildlife

Under this alternative, 42,800 acres of crucial bighorn sheep habitat and 17,830 acres of crucial desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11 and S-12). Controlling vehicle access would benefit bighorn sheep and desert tortoise because sheep would be less subject to poaching and tortoise less subject to overcollection. Habitat improvements, such as water developments, would still be allowed subject to wilderness constraints. Other desert wildlife would benefit because wildlife are adversely affected by most types of human disturbances.

Land Uses

Designation would preclude future land actions within this area. There are no existing or proposed authorizations that would be impacted by this alternative, except for the 4.5 miles of the proposed one-mile-wide Gila Bend-Santa Rosa utility corridor that crosses the WSA boundary.

Rangeland Management

Designation would not significantly impact livestock grazing operations on three perennial-ephemeral allotments (Bighorn, Conley, Lower Vekol) that overlap the WSA. Current grazing management practices would be allowed to continue. No new improvements are proposed in this WSA except for some gap fencing between mountains to control livestock movement in the Bighorn allotment. These would be allowed because the improvements are primarily for resource protection and not solely to increase livestock numbers. All existing rangeland developments would be maintained using current methods. However, BLM would authorize routes and schedules for routine maintenance of these rangeland improvements.

Cultural Resources

Under this alternative approximately 14,040 acres likely to contain cultural resources would be beneficially affected (Table S-13). BLM's inventory of this land revealed prehistoric pottery and hunting tools on the WSA's lowland gravel terraces. Furthermore, designation would protect part of the Maricopa Mountain range. This range has cultural significance to the Pima, Sand Papago, and Maricopa Indians (Cultural Systems Research, Inc., 1978).

Protected Plants

Designation would protect 71,320 acres of potential habitat for three special-status plant species by prohibiting surface disturbances from mining activities.

Recreation and Visual Resource Management (VRM)

Designation of this WSA would close 35.3 miles of vehicle ways and 71,320 acres to ORV use. Virtually all of the existing ORV-related recreation use in this area would be replaced by other forms of nonmotorized recreation. In addition, it is anticipated that visitor use would increase by 700 visitor days/year (Table S-14).

Designation would also reclassify the existing 47,960 VRM Class II acres, 9,760 VRM Class III acres, and 13,600 VRM Class IV acres to VRM Class I. Thus, the visual resources on 71,320 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use in the economic study area by 700 visitor days/year. Annual recreation related expenditures would thus increase by $2,674, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This would result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

BUTTERFIELD STAGE MEMORIAL (AZ-020-164)

Wilderness Values

Wilderness designation of the Butterfield Stage Memorial's 9,566 acres would have short- and long-term beneficial impacts to the WSA's wilderness and associated supplemental values by restricting land uses that are not compatible with wilderness preservation.

Wilderness would preserve the area's natural characteristics and maintain the WSA's opportunities for outstanding solitude. Designation would help protect the WSA's desert bighorn sheep, desert tortoise habitat, and cultural resources including remnants of the 1860's Butterfield Stage Route.

The overall quality of the area's wilderness characteristics is considered low to moderate. Subsequently designation would little benefit the quality of Sonoran Desert wilderness opportunities in Arizona. The WSA's scenic character is good, but the area's small size confines opportunities for solitude and provides no outstanding primitive recreation experiences.

This area is manageable as wilderness. The only potential problem would be with ORV use on trails within the WSA. The area has been popular with some four-wheel drive groups for many years. ORV use, however, is considered manageable in the long term.

Minerals and Energy

The designation of this area would have a negative impact on the development of mineral resources. Designation would severely restrict mineral and energy development in the designated area. In addition, no new claims and leases would be allowed in designated wilderness. Table S-10 shows the number of mining claims located in the area proposed for designation.

Wildlife

Under this alternative 6,310 acres of crucial bighorn sheep habitat and 2,870 acres of desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11 and S-12). Controlling vehicle access would benefit bighorn sheep and desert tortoise because sheep would be less subject to poaching and tortoise less subject to overcollection. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would benefit from the reduced level of human disturbance expected under designation.

Land Uses

Designation would preclude future land actions within this area. However, there are no existing authorizations that would be impacted by this alternative, except for six miles of the proposed one-mile-wide Gila Bend-Santa Rosa utility corridor that crosses the WSA boundary.

Rangeland Management

Designation of 9,566 acres as wilderness would not impact livestock grazing management on small portions of the Conley and Bighorn allotments that overlap the WSA. The two allotments are designated as perennial-ephemeral allotments and would be allowed to continue existing grazing practices. Currently no new rangeland developments are proposed nor do any exist except for approximately four miles of vehicle way used to manage livestock.

Cultural Resources

Designation would benefit 4,480 acres in the WSA likely to contain cultural resources (Table S-13). Site types recorded here include prehistoric rock rings, a roasting pit, and isolated pot busts, as well as historic temporary campsites.

ORV use would pose a moderate threat to the above cultural resources if the area were not designated. Designation would limit the potential for this surface disturbance by decreasing ORV use and thereby benefit cultural resources.

Protected Plants

Wilderness designation would protect 9,566 acres of potential habitat for three special-status plant species by prohibiting surface disturbances from ORV use. Some habitat disturbance from ORV use is likely if the area were not designated.

Recreation and Visual Resource Management (VRM)

Designation would close 8.5 miles of vehicle ways and 9,566 acres to ORV use. However, designation is not anticipated to have any major impact on the type of recreation use occurring in the area. There would be a minor decrease in some types of motorized recreation

but wilderness recreation type uses are expected to increase. Overall an increase of 300 visitor days/year is anticipated (Table S-14).

Upon designation, the existing 9,246 VRM Class II acres and 320 VRM Class III acres would be reclassified as VRM Class I. Thus, the visual resources on 9,566 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designating this WSA as wilderness is expected to increase visitor use by 300 visitor days/year. Annual recreation related expenditures would thus increase by $1,146, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows by alternative the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

TABLE TOP MOUNTAINS (AZ-020-172)

Wilderness Values

This alternative would recommend designation of all 37,968 acres of the Table Top Mountains WSA as wilderness. Designation would have short- and long-term beneficial impacts on the WSA's wilderness and associated supplemental values by restricting land uses that are not compatible with wilderness preservation.

The impacts of this alternative are similar to those described under the Table Top Mountains WSA's *Proposed Action,* except that an additional 3,568 acres are

Table Top Mountain Is A Well Known Landmark In Pinal County

A winter snowfall dusts the peak—Table Top Mountains WSA.

included on the WSA's western and northern boundaries. This additional acreage contributes little to the area's wilderness values and would be more difficult to manage as wilderness.

The entire WSA is considered to be manageable as wilderness, except that the western boundary of the WSA is poorly defined on the ground making it hard to locate. Also, nonfederal mineral inholdings create potential management problems. Conflicts with motorized vehicle use are likely to occur along the western boundary since these desert bajada areas are easily crossed by ORVs.

Currently none of the WSA's mining claims are producing, but if claims were developed, adverse impacts could occur to wilderness resources in localized areas. Mining claims are concentrated along the extreme western and northwestern boundary of the area.

Minerals and Energy

Under this alternative 22,780 acres of crucial bighorn sheep habitat and 5,700 acres of crucial desert tortoise habitat would be protected from habitat disturbances caused by motorized recreation and mining (Table S-11 and S-12). Controlling vehicle access would benefit bighorn sheep and desert tortoise because sheep would be less subject to poaching and tortoise less subject to overcollection. Habitat improvements, such as water developments, would still be allowed, subject to wilderness constraints. Other desert wildlife would also benefit from designation because designation would reduce human disturbances.

Land Use

Designation would preclude future land actions within this area. However, there are currently no existing or proposed authorizations that would be impacted by this alternative.

Rangeland Management

Designation of 37,968 acres as wilderness in this WSA would not significantly impact livestock grazing management on portions of three perennial-ephemeral allotments that overlap the WSA (Table Top, Vekol, South Vekol). Livestock grazing as it currently exists would be allowed to continue. All reservoirs, wells, and fences would be maintained by conventional means as long as no degrading impacts occur to wilderness.

Cultural Resources

Impacts to cultural resources would be generally the same as those described under the *Proposed Action,* except that 14,795 acres instead of 13,195 acres would be beneficially affected (Table S-13).

Protected Plants

The beneficial impacts to botanical resources would generally be the same as those described under the *Proposed Action,* except that 37,968 acres of potential special-status plant habitat would be protected.

Recreation and Visual Resource Management (VRM)

Designation would close 27 miles of vehicle ways, 3.25 miles of road, and 37,968 acres to ORV use. Of the existing ORV-related recreation use in this area, over half would be replaced by nonmotorized recreation use. Overall, it is estimated that visitor use would increase by 600 visitor days/year (Table S-14).

The current 26,928 VRM Class II acres, 6,880 VRM Class III acres, and 4,160 VRM Class IV acres would be reclassified to VRM Class I. Thus, the visual resources on 37,968 acres would be better protected through application of the more restrictive VRM Class I guidelines (Table S-20).

Economic Conditions

Recreation Economics. Designation is expected to increase visitor use in the economic study area by 600 visitor days/year. Annual recreation related expenditures would thus increase by $2,292, an insignificant amount when viewed on a regional level (Table S-16).

Mineral Economics. Development of mineral rights established prior to the designation date would be subject to increased regulation of access and reclamation in order to protect wilderness values. This may result in additional costs to mine operators and therefore discourage development.

A number of oil and gas leases have been established in the WSA, but to date no production has occurred. Table S-17 shows the potential lease revenues that BLM and the state would forgo each year if the area were designated. The loss of this revenue would be less than one percent of the total collections BLM receives yearly.

APPENDICES

APPENDIX 1
RESOURCE MANAGEMENT PLAN ACTION STEPS
Bureau of Land Management, Phoenix District, Arizona

The planning process described in BLM planning regulations 43 CFR part 1600, consists of nine action steps: (1) Inventory Data and Information Collection; (2) Identification of Issues; (3) Development of Planning Criteria; (4) Analysis of the Management Situation; (5) Formulation of Alternatives; (6) Estimation of Effects of Alternatives; (7) Selection of the Preferred Alternative; (8) Selection of the Resource Management Plan; (9) Monitoring and Evaluation. The action steps are summarized below. The first seven action steps have been completed.

Step 1: Inventory Data and Information Collection

This step involves the collection of various kinds of issue-related resource, environmental, social, economic, or institutional data needed for completion of the process.

Step 2: Identification of Issues

This step is intended to identify resource management problems or conflicts that can be resolved through the planning process.

Step 3: Development of Planning Criteria

During this step preliminary decisions are made regarding the kinds of information needed to clarify the issues, the kinds of alternatives to be developed, and the factors to be considered in evaluating alternatives and selecting a preferred resource management plan.

Step 4: Analysis of the Management Situation

This step calls for a deliberate assessment of the current situation. It includes a description of current BLM management guidance, a discussion of existing problems and opportunities for solving them, and a consolidation of existing data that is needed to analyze and resolve the identified issues.

Step 5: Formulation of Alternatives

During this step several complete, reasonable resource management alternatives are prepared; including one for no action and several that strive to resolve the issues while placing emphasis either on environmental protection or resource production.

Step 6: Estimation of Effects of Alternatives

The physical, biological, economic, and social effects of implementing each alternative are estimated in order to allow for a comparative evaluation of impacts.

Step 7: Selection of the Preferred Alternative

Based on the information generated during Step 6, the District Manager identifies a preferred alternative. The draft RMP/EIS document is then prepared and distributed for public review.

Step 8: Selection of the Resource Management Plan

Based on the results of public review and comment, the District Manager will select a proposed resource management plan and publish it along with a final EIS. A final decision is made after a thirty-day appeal period on the final EIS.

Step 9: Monitoring and Evaluation

This step involves the collection and analysis of long-term resource condition and trend data to determine the effectiveness of the plan in resolving the identified issues, and to assure that implementation of the plan is achieving the desired results. Monitoring continues from the time the RMP is adopted until changing conditions require a revision of the whole plan or any portion of it.

SOURCE: 43 CFR part 1600

APPENDIX 2
EPHEMERAL ALLOTMENTS AND SECTION 15 LEASES
Bureau of Land Management, Phoenix District, Arizona

Allotment Number	Allotment Name	Federal Acres
	Ephemeral Allotments	
3002	A Lazy T	4,927
3003	Amavisca	26,110
3004	Arnold	22,865
3005	Artex	80,658
3024	Dendora Valley	31,450
3033	Gable Peterson	316
3036	Gila River Community	56,334
3037	Gillespie	15,171
3043	Hazen Sheppard	23,129
3044	Jagow Kreager	13,174
3049	Layton	5,780
3054	Mariani	8,092
3057	Mumme	5,283
3062	Painted Rock	297
3064	Palomas	109,808
3068	Powers Butte	7,577
3077	Sevey	2,261
3082	Stout	3,722
TOTAL		416,954
	Section 15 Grazing Leases	
5001	Amavisca	2,040
5000	Bagwell	3,719
5002	Bagwell	3,278
5003	Arizona Title & Trust	1,440
5024	C. Hill & J. Palmer	80
5036	Jojoba Plantation & Prod. Inc.	4,576
5044	K.K. Skousen (Caliente Farms)	2,728
5006	Whitewing Ranch Co.	523
TOTAL		18,384

SOURCE: Lower Gila Resource Area grazing files

APPENDIX 3
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres
T. 5 S., R. 2 E.,	5:	Lots 1, 2, 3, 4, S½N½, S½;	669.00
	6:	Lots 1, 2, 3, 4, 5, 6, 7, S½NE¼, SE¼NW¼, E½SW¼, SW¼;	664.01
	7:	Lots 1, 2, 3, 4, E½W½, E½;	629.76
	8:	E½;	320.00
	9:	All.	640.00
		TOTAL:	2,922.77
T. 4 S., R. 1 E.,	1:	Lots 1, 2, 3, 4, 5, 6, 7 SE¼NE¼, S½NW¼, SW¼, W½SE¼;	665.46
	3:	Lots 1, 2, 3, 4, S½N½, S½;	639.32
	9:	All;	640.00
	10:	W½;	320.00
	11:	All;	640.00
	12:	Lots 1, 2, 3, 4, W½E½, W½;	665.56
	13:	NW¼NE¼;	40.00
	19:	W½;	320.00
	31:	E½;	320.00
	34:	E½;	320.00
	35:	W½.	320.00
		TOTAL:	4,890.34
T. 5 S., R. 1 E.,	2:	Lots 1, 2, 3, 4, S½N½, S½;	640.16
	3:	Lots 1, 2, 3, 4, S½N½, S½;	639.92
	7:	E½;	320.00
	8:	W½;	320.00
	9:	W½;	320.00
	10:	All;	640.00
	11:	W½;	640.00
	13:	S½SW¼, SW¼SE¼, E½SE¼;	200.00
	15:	N½NE¼, SW¼NE¼, W½, SW¼SE¼;	480.00
	16:	All;	640.00
	17:	W½.	320.00
		TOTAL:	5,160.08
T. 6 S., R. 1 E.,	2:	Lots 1, 2, 3, 4, S½N½, S½;	638.40
	3:	Lot 4, SW¼NW¼, S½;	399.60
	4:	Lots 1, 2, 3, 4, S½N½, S½;	638.60
	7:	Lots 1, 2, NE¼, E½NW¼;	312.43
	9:	SW¼NW¼, S½;	360.00
	10:	All;	640.00
	11:	All;	640.00
	14:	N½;	320.00
	15:	W½;	320.00
	18:	Lots 3, 4, E½SW¼;	152.88
	19:	Lots 1, 2, E½NW¼;	153.02
	21:	N½;	320.00
	26:	N½;	320.00

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 6 S., R. 1 E., (Continued)	27:	S½;	320.00
	28:	W½NW¼, E½SE¼;	160.00
	29:	W½;	320.00
	31:	Lots 1, 2, 3, 4, E½, E½W½;	626.84
	32:	All;	640.00
	33:	NW¼;	160.00
	35:	E½SW¼, SE¼.	240.00
		TOTAL:	7,681.77
T. 7 S., R. 1 E.,	2:	Lots 1, 2, 3, 4, S½N½, S½;	640.56
	3:	Lots 1, 2, 3, S½NE¼, SE¼NW¼, SE¼;	320.14
	5:	Lots 1, 2, 3, 4, S½N½;	319.16
	6:	Lots 1, 2, 3, 4, 5, S½NE¼, SE¼NW¼.	313.04
		TOTAL:	1,592.90
T. 2 S., R. 1 W.,	25:	N½, SW¼;	480.00
	26:	N½, SE¼;	480.00
	27:	E½;	320.00
	34:	NE¼;	160.00
	35:	All.	640.00
		TOTAL:	2,080.00
T. 3 S., R. 1 W.,	1:	SE¼;	160.00
	3:	SE¼;	160.00
	4:	SE¼;	160.00
	11:	W½, SE¼;	480.00
	12:	All;	640.00
	13:	All;	640.00
	14:	NE¼;	160.00
	21:	W½W½;	160.00
	22:	E½;	320.00
	23:	S½;	320.00
	24:	All;	640.00
	25:	All;	640.00
	26:	All;	640.00
	27:	W½;	320.00
	28:	W½W½;	160.00
	33:	NW¼, SE¼;	320.00
	34:	SW¼;	160.00
	35:	All;	640.00
	36:	All.	640.00
		TOTAL:	7,360.00

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 1 S., R. 2 W.,	1:	Lots 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20;	610.74
	2:	Lot 3, S½NW¼;	120.01
	3:	SE¼NE¼;	40.00
	10:	All;	640.00
	11:	All;	640.00
	12:	Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16;	602.17
	13:	Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16;	603.09
	14:	All;	640.00
	15:	All;	640.00
	22:	E½, E½NW¼, SW¼;	560.00
	23:	All;	640.00
	24:	All;	640.00
	25:	NW¼, S½;	480.00
	26:	Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16;	639.36
	27:	All;	640.00
	28:	S½;	320.00
	30:	Lot 1;	39.87
	31:	Lots 1, 3, 4, N½NE¼, NE¼NW¼, W½SW¼;	319.78
	32:	S½N½, SW¼SW¼, SE¼;	360.00
	33:	NE¼;	160.00
	34:	NW¼, N½SW¼, SE¼SE¼, SE¼;	440.00
	35:	All;	640.00
	36:	All.	640.00
		TOTAL:	11,055.02
T. 2 S., R. 2 W.,	5:	Lots 1, 2, SE¼NE¼;	117.29
	6:	N½SE¼;	80.00
	18:	Lots 1, 2, E½NW¼;	153.47
	28:	NW¼NE¼NE¼, N½SW¼NE¼NE¼, S½NE¼SW¼NE¼, N½SE¼SW¼NE¼, S½SW¼SW¼NE¼, N½NE¼NE¼NW¼, NW¼NE¼NW¼, SE¼SE¼NW¼, W½W½SW¼, SW¼NE¼SW¼, NW¼SE¼SW¼, S½SE¼SW¼, N½NE¼SE¼, SW¼NE¼SE¼, S½NE¼NW¼SE¼ S½SE¼NW¼SE¼, S½NE¼SW¼SE¼, SE¼SW¼SE¼, S½SW¼SW¼SE¼;	195.00
	33:	NW¼NE¼NE¼, W½NE¼, W½SE¼NE¼, S½NE¼SE¼NE¼, SE¼SE¼NE¼, N½NE¼NW¼, SE¼NE¼NW¼, SW¼NW¼NW¼, E½SE¼NW¼, NE¼SW¼, E½NW¼SW¼, SW¼NW¼SW¼, S½SW¼.	325.00
		TOTAL:	870.76

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 1 S., R. 3 W.,	24:	SE¼NW¼, SW¼SW¼, E½SW¼;	160.00
	25:	NE¼NE¼, W½NE¼, W½, W½SE¼.	520.00
		TOTAL:	680.00
T. 1 S., R. 4 W.,	35:	Lots 1, 3, 4, 5, 6, 7, 8, 9, 10, SW¼NE¼NE¼.	145.46
		TOTAL:	145.46
T. 3 S., R. 4 W.,	27:	NE¼.	160.00
		TOTAL:	160.00
T. 4 S., R. 4 W.,	3:	SE¼;	160.00
	6	Lots 4,5;	75.82
	7:	Lots 1,2,3,4, E½W½;	314.20
	8:	SE¼;	160.00
	18:	Lots 13, 14, 15, 16, 17, 18, 19, 20, 21, 22;	418.11
	21:	NW¼NW¼;	40.00
	22:	E½W½;	160.00
	27:	E½W½.	160.00
		TOTAL:	1,488.13
T. 5 S., R. 4 W.,	6:	Lots 3, 4, 5, 6, 7, 8, 9, 10, W½SE¼;	401.92
	7:	Lots 3, 4, 5, 6.	166.90
		TOTAL:	568.82
T. 6 S., R. 4 W.,	19:	Lots 3,4, E½, E½SW¼;	473.39
	31:	Lots 1,2, NE¼, E½NW.	313.81
		TOTAL:	787.20
T. 1 S., R. 5 W.,	35:	N½;	320.00
	36:	N½.	320.00
		TOTAL	640.00
T. 2 S., R. 5 W.,	3:	SE¼SE¼;	40.00
	28:	W½SW¼;	80.00
	33:	W½W½.	160.00
		TOTAL:	280.00
T. 1 S., R. 6 W.,	31:	W½.	320.00
		TOTAL:	320.00

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 1 S., R. 7 W.,	19:	E½SW¼, SE¼;	240.00
	20:	S½S½;	160.00
	21:	SW¼SW¼;	40.00
	26:	S½;	320.00
	27:	All;	640.00
	28:	NW¼, N½SW¼, SW¼SW¼, E½SE¼;	360.00
	29:	All;	640.00
	30:	NE¼, E½NW¼, N½SE¼, SE¼SE¼;	360.00
	31:	Lots 3, 4;	72.58
	33:	NE¼NE¼, S½NE¼, N½S½.	280.00
		TOTAL:	3,112.58
T. 6 S., R. 7 W.,	15:	SW¼;	160.00
	23:	NW¼SW¼, S½SW¼;	120.00
	33:	E½SW¼, SE¼SW¼, SE¼.	280.00
		TOTAL:	560.00
T. 12 S., R. 5 W.,	7:	E½E½;	160.00
	18:	E½E½;	160.00
	19:	NE¼NE¼, S½NE¼, E½SW¼, SE¼.	360.00
		TOTAL:	680.00
T. 13 S., R. 5 W.*	25:	N½NE¼.	80.00
		TOTAL:	80.00
T. 12 S., R. 6 W.*	11:	N½, SW¼, E½SE¼;	560.00
	12:	NW¼.	160.00
		TOTAL:	720.00
T. 1 S., R. 8 W.,	20:	NE¼NE¼, SE¼SE¼;	80.00
	21:	SW¼, S½SE¼;	240.00
	22:	E½, E½NW¼;	400.00
	23:	SE¼.	160.00
		TOTAL:	880.00
T. 1 S., R. 9 W.,	7:	Lots 1, 2, 3, 4, E½W½;	302.96
	14:	NE¼, S½NW¼;	240.00
	16:	E½SE¼.	80.00
		TOTAL:	622.96
T. 1 N., R. 10 W.,	13:	SW¼, N½SE¼.	240.00
		TOTAL:	240.00
T. 5 S., R. 10 W.,	1:	Lots 1, 2, S½NE¼;	80.04
	11:	N½NW¼;	80.00
	18:	Lot 1, W½NW¼, SE¼NW¼, N½SE¼, SE¼SE¼.	239.00
		TOTAL:	399.04

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 5 S., R. 11 W.,	33:	N½SE¼.	80.00
		TOTAL:	80.00

*The following areas have public lands that cannot be described by aliquot parts and need cadastral survey work prior to disposal:
T. 13 S., R. 5 W., Sec. 25.
T. 12 S., R. 6 W., Secs. 10, 22, 27.

T. 6 S., R. 11 W.,	1:	S½SE¼;	80.00
	10:	N½NW¼;	80.00
	23:	W½SE¼, NE¼NE¼SE¼, E½SE¼SE¼;	110.00
	24:	S½NW¼;	80.00
	27:	E½NE¼, SE¼;	240.00
	29:	W½NE¼NW¼, W½NW¼, SE¼NW¼.	140.00
		TOTAL:	730.00
T. 7 S., R. 11 W.,	6:	Lots 1, 2, 3, 4, 5, 6, 7, S½NE¼, SE¼NW¼, E½SW¼;	462.59
	7:	Lots 1, 2, 3, NE¼, E½NW¼, NE¼SW¼, NW¼SE¼, W½NE¼SE¼;	448.94
	8:	NW¼;	160.00
	10:	S½SW¼;	80.00
	15:	SE¼;	160.00
	30:	E½SW¼;	80.00
	31:	Lots 3,4, E½SW¼, E½SE¼.	197.11
		TOTAL:	1,588.64
T. 3 N., R. 12 W.,	27:	W½.	320.00
		TOTAL:	320.00
T. 6 S., R. 12 W.,	4:	Lots 3, 4, S½NW¼;	163.21
	5:	Lots 1, 2, S½NE¼;	163.85
	9:	NW¼;	160.00
	10:	N½;	320.00
	26:	NE¼, N½NW¼, NW¼SE¼.	280.00
		TOTAL:	1,087.06
T. 7 S., R. 12 W.,	4:	NW¼SW¼SE¼;	10.00
	5:	Lot 4, N½SW¼NW¼, N½NW¼SW¼, E½SE¼NW¼SW¼, NE¼SW¼, N½SE¼SW¼, SW¼SE¼SW¼, NE¼SE¼, E½NW¼SE¼, E½W½NW¼SE¼, NE¼SW¼SE¼, NW¼SE¼SE¼;	245.29
	6	SE¼NW¼, NE¼SW¼;	80.00
	25:	W½SE¼;	80.00
	33:	SE¼NE¼SE¼, E½SE¼SE¼, E½W½SE¼SE¼;	40.00
	34:	W½NE¼NE¼, NW¼NE¼, S½N½, S½.	540.00
		TOTAL:	995.29

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 6 S., R. 13 W.,	17:	NE¼SW¼, S½SW¼;	120.00
	18:	SE¼SE¼;	40.00
	19:	S½SE¼;	80.00
	27:	N½NW¼;	80.00
	28:	N½N½.	160.00
		TOTAL:	480.00
T. 7 S., R. 13 W.,	1	Lot 2, W½NE¼SW¼, SE¼NE¼SW¼, W½SW¼, SE¼SW¼, S½N½SE¼;	229.93
	3:	Lot 1, S½NE¼, SE¼NW¼, S½;	479.74
	4:	SE¼SW¼, NE¼SE¼, S½SE¼;	160.00
	7:	Lot 4, SE¼SW¼, NE¼SE¼, S½SE¼;	196.60
	8:	S½NE¼, S½S½;	400.00
	9:	N½N½NE¼NE¼, W½NE¼, NW¼, W½SW¼, W½E½SW¼.	370.00
			1,836.27
T. 6 S., R. 14 W.,	34	S½;	320.00
	35:	N½, SW¼, NW¼SE¼.	520.00
		TOTAL:	840.00
T. 7 S., R. 14 W.,	3:	Lots 1,2,3,4, SW¼NE¼, S½NW¼, NW¼SW¼;	318.68
	4:	Lots 1,2,3,4, S½N½, S½;	640.08
	5:	Lots 1,2,3,4, S½N½, N½S½;	480.02
	13:	All;	640.00
	14:	SE¼NE¼, S½;	360.00
	15:	SE¼;	160.00
	20:	SE¼;	160.00
	24:	N½NW¼.	80.00
		TOTAL:	2,838.78
T. 4 N., R. 15 W.,	30:	Lots 3, 4, E½SW¼;	154.56
	31:	Lots 1, 2, 3, 4, E½, E½W½;	629.20
	32:	All;	640.00
	36:	W½.	320.00
		TOTAL:	1,743.76
T. 3 N., R. 15 W.,	2:	Lots 1, 2, 3, 4, S½N½, N½SW¼, SW¼SW¼.	439.20
		TOTAL	439.20
T. 6 N., R. 16 W.,	6:	Everything south of highway: Needs cadastral survey Approx. 480.00 acres;	480.00±
	7:	Lots 1, 2, 3, NE¼, E½NW¼, NE¼SW¼, E½SE¼;	486.34

APPENDIX 3 (Continued)
LANDS IDENTIFIED FOR DISPOSAL IN THE LOWER GILA SOUTH RMP/EIS AREA*

Township and Range	Section	Subdivision	Acres
T. 6 N., R. 16 W., (Continued)	8:	Everything south of highway: needs cadastral survey Approx. 320.00 acres;	320.00±
	29:	W½;	320.00
	32:	W½.	320.00
		TOTAL:	1,926.34±
T. 5 N., R. 16 W.,	4:	Lots 1, 2, S½NE¼, S½;	478.67
	5:	Lots 3, 4, S½NW¼, S½;	480.92
	9:	NE¼;	160.00
	10:	NW¼.	160.00
		TOTAL:	1,279.59
T. 4 N., R. 16 W.,	14:	E½;	320.00
	24:	E½.	320.00
		TOTAL:	640.00
T. 7 N., R. 17 W.,	36:	Everything southwest of highway: needs cadastral survey: Approx. 320.00 acres.	320.00±
		TOTAL:	320.00±
	GRAND TOTALS		73,122.76

* Lands proposed for disposal will be the same for all alternatives except the No Action alternative. Under the No Action alternative no lands are recommended for disposal.

SOURCE: Phoenix District maps and files

APPENDIX 4
LANDS SUITABLE FOR ACQUISITION FOR MULTIPLE USE MANAGEMENT*
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres
T. 4 S., R. 1 W.,	34:	SE¼;	160.00
	35:	NW¼.	160.00
T. 3 S., R. 2 W.,	4:	E½, SW¼;	480.00
	5:	SW¼.	160.00
T. 13 S., R. 6 W.,	36:	All.	640.00
T. 5 S., R. 8 W.,	36:	Lots 1,2,3,4, NW¼NW¼, S½NW¼, N½S½.	448.48
T. 4 S., R. 9 W.,	2:	All;	640.00
	4:	S½;	320.00
	9:	All;	640.00
	10:	NW¼NE¼, S½NE¼, W½, SE¼;	600.00
	32:	Lots 1,2,3,4, N½, N½S½;	655.84
	36:	NE¼NE¼.	40.00
T. 5 S., R. 9 W.,	32:	All.	640.00
T. 6 S., R. 9 W.,	4:	SW¼NW¼, NW¼SW¼;	80.00
	5:	Lots 1,2,3,4, S½N½, N½S½, SE¼SW¼.	491.28
T. 1 S., R. 10 W.,	16:	NE¼, E½NW¼, NE¼SW¼, N½SE¼;	80,00
	19:	Lots 3,4, E½SW¼, SE¼;	312.70
	30:	Lots 1,2,3, NE¼, E½NW¼, NE¼SW¼, N½SE¼.	469.16
T. 2 N., R. 11 W.	32:	N½, SW¼, NW¼SE¼;	520.00
	36:	N½, SW¼, W½SE¼.	540.00
T. 1 S., R. 11 W.,	1:	SW¼;	160.00
	2:	SE¼;	160.00
	3:	Lots 1,2,3,4, S½N½, S½;	601.60
	4:	Lots 1,2,3,4, S½N½, S½;	601.36
	5:	Lots 1,2,3,4, S½N½, S½;	601.12
	24:	SE¼;	160.00
	25:	N½, N½S½;	480.00
	26:	S½N½, N½S½.	320.00
T. 2 S., R. 12 W.,	16:	NW¼, S½;	480.00
	17:	All;	640.00
	20:	NE¼;	160.00
	21:	NW¼NW¼, S½NW¼, SW¼.	280.00

APPENDIX 4 (Continued)
LANDS SUITABLE FOR ACQUISITION FOR MULTIPLE USE MANAGEMENT*

Township and Range	Section	Subdivision	Acres
T. 4 S., R. 12 W.,	23:	E½, E½W½;	480.00
	26:	E½;	320.00
	35:	Lots 2,3,4, NE¼, E½NW¼, NE¼SW¼, N½SE¼.	484.98
T. 3 N., R. 13 W.,	36:	E½SE¼.	80.00
T. 1 N., R. 13 W.,	2:	Lot 1;	39.90
	16:	N½, SW¼;	480.00
	36:	N½.	320.00
T. 4 S., R. 13 W.,	14:	All;	640.00
	21:	S½;	320.00
	23:	All;	640.00
	24:	All;	640.00
	26:	All;	640.00
	27:	All;	640.00
	28:	All.	640.00
T. 6 S., R. 11 W.,	3:	N½SW¼, SW¼SW¼, SE¼SW¼, NW¼SE¼;	200.00
	9:	SW¼NE¼, E½NE¼SW¼, E½SW¼SW¼;	80.00
	10:	NE¼, S½NW¼, S½;	560.00
	16:	N½;	320.00
	15:	N½;	320.00
	11:	E½SW¼.	80.00
		TOTAL	20,642.42

* Lands proposed for acquisition will be the same for all alternatives except the No Action alternative. Under the No Action alternative no lands are recommended for acquisition.

SOURCE: Phoenix District maps and files

APPENDIX 5
LANDS IDENTIFIED BY ALTERNATIVE FOR ACQUISITION TO BENEFIT WILDLIFE
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
		Proposed Action			
T. 7 S., R. 14 W.,	16	S½;	320.0	S	Tamarisk
	32	SW¼.	160.0	S	Mesquite
T. 6 S., R. 12 W.,	32	S½.	320.0	S	Mesquite
T. 6 S., R. 11 W.,	17	NE¼;	160.0	P	Prime Mesquite
	16	NW¼NW¼;	40.0	S	Prime Mesquite
	9	SW¼SW¼;	40.0	P	Prime Mesquite
	9	N½SW¼;	80.0	P	Prime Mesquite
	9	S½NW¼;	80.0	P	Prime Mesquite
	9	SW¼NE¼;	40.0	P	Prime Mesquite
	3	SW¼;	160.0	P	Prime Mesquite
	3	N½SE¼;	80.0	P	Prime Mesquite
	2	All.	640.0	P	Prime Mesquite
T. 5 S., R. 11 W.,	36	All;	640.0	S	Tamarisk
	35	All.	640.0	P,S	Tamarisk
T. 5 S., R. 10 W.,	27	NE¼;	160.0	S	Tamarisk
	26	N½N½;	160.0	S	Mesquite
	25	NW¼NW¼;	40.0	S	Mesquite
	24	All.	640.0	S,P	Mesquite
T. 4 S., R. 8 W.,	32	All.	640.0	S	Tamarisk/Mesquite
T. 5 S., R. 8 W.,	5	NE¼SE¼;	40.0	S	Mesquite
	4	N½SW¼;	80.0	S	Mesquite
	4	NW¼SE¼.	40.0	S	Mesquite
T. 1 S., R. 5 W.,	27	NE¼SW¼;	40.0	S	Tamarisk
	27	NW¼SE¼;	40.0	S	Tamarisk
	26	S½N½;	160.0	S	Tamarisk
	25	S½N½;	160.0	S	Tamarisk
	25	NE¼NE¼.	40.0	S	Tamarisk
T. 1 S., R. 4 W.,	14	NE¼SE¼;	40.0	S	Tamarisk
	13	W½W½SW¼.	40.0	S	Tamarisk
T. 1 S., R. 3 W.,	18	N½N½;	160.0	S	Tamarisk
	16	All.	640.0	S	Tamarisk
T. 1 N., R. 2 W.,	36	All.	640.0	S	Tamarisk
T. 1 N., R. 1 W.,	31	N½N½;	160.0	S	Tamarisk
	36	S½.	320.0	S	Tamarisk

APPENDIX 5 (Continued)
LANDS IDENTIFIED FOR ACQUISITION TO BENEFIT WILDLIFE*

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
Proposed Action (Continued)					
T. 2 S., R. 5 W.,	2	All.	640.0	S	Saguaro Paloverde
T. 5 N., R. 17 W.,	16	S½;	320.0	S	Bighorn/Tortoise
	32	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 5 N., R. 18 W.,	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 4 N., R. 18 W.,	36	N½;	320.0	S	Bighorn/Tortoise
	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 N., R. 18 W.,	2	N½NW¼;	80.0	S	Bighorn/Tortoise
	2	NE¼;	160.0	S	Bighorn/Tortoise
	2	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 2 N., R. 11 W.,	32	NW¼;	160.0	S	Bighorn/Tortoise
	32	NE¼;	160.0	S	Bighorn/Tortoise
	32	SW¼;	160.0	S	Bighorn/Tortoise
	32	NW¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 S., R. 1 E.,	2	All.	640.0	S	Bighorn/Tortoise
T. 9 S., R. 1 E.,	2	All.	640.0	S	Vekol grassland
No Action					
No land is proposed for acquisition under this alternative.					
Resource Production					
T. 5 N., R. 17 W.,	16	S½;	320.0	S	Bighorn/Tortoise
	32	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 5 N., R. 18 W.,	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 4 N., R. 18 W.,	36	N½;	320.0	S	Bighorn/Tortoise
	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 N., R. 18 W.,	2	N½NW¼;	80.0	S	Bighorn/Tortoise
	2	NE¼;	160.0	S	Bighorn/Tortoise
	2	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 2 N., R. 11 W.,	32	NW¼;	160.0	S	Bighorn/Tortoise
	32	NE¼;	160.0	S	Bighorn/Tortoise
	32	SW¼;	160.0	S	Bighorn/Tortoise
	32	NW¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 S., R. 1 E.,	2	All.	640.0	S	Bighorn/Tortoise

APPENDIX 5 (Continued)
LANDS IDENTIFIED FOR ACQUISITION TO BENEFIT WILDLIFE*

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
		Resource Protection			
T. 7 S., R. 14 W.,	16	S½;	320.0	S	Tamarisk
	32	SW¼.	160.0	S	Mesquite
T. 6 S., R. 13 W.,	15	E½;	320.0	P	Tamarisk
	22	S½SE¼;	80.0	P	Mesquite
	23	S½;	320.0	P	Mesquite
	27	N½NE¼;	80.0	P	Mesquite
	29	S½;	320.0	P	Mesquite
	30	S½SE¼;	80.0	P	Mesquite
	31	N½;	320.0	P	Mesquite
	31	N½SW¼.	80.0	P	Tamarisk
T. 6 S., R. 12 W.,	32	S½;	320.0	S	Mesquite
	33	S½;	320.0	P	Mesquite
	33	S½N½;	160.0	P	Mesquite
	26	NE¼;	160.0	P	Mesquite
	26	NE¼SW¼;	40.0	P	Mesquite
	25	N½.	320.0	P	Mesquite
T. 6 S., R. 11 W.,	19	N½;	320.0	P	Mesquite
	19	NE¼SW¼.	40.0	P	Mesquite
T. 6 S., R. 11 W.,	17	NE¼;	160.0	P	Prime Mesquite
	16	NW¼NW¼;	40.0	S	Prime Mesquite
	9	SW¼SW¼;	40.0	P	Prime Mesquite
	9	N½SW¼;	80.0	P	Prime Mesquite
	9	S½NW¼;	80.0	P	Prime Mesquite
	9	SW¼NE¼;	40.0	P	Prime Mesquite
	3	SW¼;	160.0	P	Prime Mesquite
	3	N½SE¼;	80.0	P	Prime Mesquite
	2	All.	640.0	P	Prime Mesquite
T. 5 S., R. 11 W.,	36	All;	640.0	S	Tamarisk
	35	All;	640.0	P,S	Tamarisk
	25	N½;	320.0	P	Mesquite
	25	N½S½;	160.0	P	Mesquite
	25	SW¼SW¼.	40.0	P	Mesquite
T. 5 S., R. 10 W.,	30	N½;	320.0	P	Mesquite
	30	N½SW¼.	80.0	P	Mesquite
T. 6 S., R. 11 W.,	1	N½;	320.0	P	Mesquite
	1	N½S½.	160.0	P	Mesquite
T. 6 S., R. 10 W.,	6	NW¼.	160.0	P	Mesquite

APPENDIX 5 (Continued)
LANDS IDENTIFIED FOR ACQUISITION TO BENEFIT WILDLIFE*

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
		Resource Protection (Continued)			
T. 5 S., R. 10 W.,	28	E½SW¼;	80.0	P	Mesquite
	28	SW¼SW¼;	40.0	P	Mesquite
	27	NE¼;	160.0	S	Tamarisk
	23	E½;	320.0	S,P	Tamarisk/Mesquite
	26	N½N½;	160.0	S	Mesquite
	25	NW¼NW¼;	40.0	S	Mesquite
	24	All.	640.0	S,P	Mesquite
T. 4 S., R. 8 W.,	32	All.	640.0	S	Tamarisk/Mesquite
T. 5 S., R. 8 W.,	5	NE¼SE¼;	40.0	S	Mesquite
	4	N½SW¼;	80.0	S	Mesquite
	4	NW¼SE¼.	40.0	S	Mesquite
T. 1 S., R. 5 W.,	27	NE¼SW¼;	40.0	S	Tamarisk
	27	NW¼SE¼;	40.0	S	Tamarisk
	26	S½N½;	160.0	S	Tamarisk
	25	S½N½;	160.0	S	Tamarisk
	25	NE¼NE¼.	40.0	S	Tamarisk
T. 1 S., R. 4 W.,	14	NE¼SE¼;	40.0	S	Tamarisk
	13	W½W½SW¼.	40.0	S	Tamarisk
T. 1 S., R. 3 W.,	18	N½N½;	160.0	S	Tamarisk
	16	All.	640.0	S	Tamarisk
T. 1 N., R. 2 W.,	36	All.	640.0	S	Tamarisk
T. 1 N., R. 1 W.,	31	N½N½;	160.0	S	Tamarisk
	36	S½.	320.0	S	Tamarisk
T. 2 S., R. 5 W.,	2	All.	640.0	S	Saguaro Paloverde
T. 5 N., R. 17 W.,	16	S½;	320.0	S	Bighorn/Tortoise
	32	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 5 N., R. 18 W.,	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 4 N., R. 18 W.,	36	N½;	320.0	S	Bighorn/Tortoise
	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 N., R. 18 W.,	2	N½NW¼;	80.0	S	Bighorn/Tortoise
	2	NE¼;	160.0	S	Bighorn/Tortoise
	2	SW¼SW¼.	40.0	S	Bighorn/Tortoise

APPENDIX 5 (Continued)
LANDS IDENTIFIED FOR ACQUISITION TO BENEFIT WILDLIFE*

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
		Resource Protection (Continued)			
T. 2 N., R. 11 W.,	32	NW¼;	160.0	S	Bighorn/Tortoise
	32	NE¼;	160.0	S	Bighorn/Tortoise
	32	SW¼;	160.0	S	Bighorn/Tortoise
	32	NW¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 S., R. 1 E.,	2	All.	640.0	S	Bighorn/Tortoise
T. 9 S., R. 1 E.,	2	All.	640.0	S	Vekol grassland
		Environmental Protection			
T. 7 S., R. 14 W.,	16	S½;	320.0	S	Tamarisk
	32	SW¼.	160.0	S	Mesquite
T. 6 S., R. 13 W.,	15	E½;	320.0	P	Tamarisk
	22	S½SE¼;	80.0	P	Mesquite
	23	S½;	320.0	P	Mesquite
	27	N½NE¼;	80.0	P	Mesquite
	29	S½;	320.0	P	Mesquite
	30	S½SE¼;	80.0	P	Mesquite
	31	N½;	320.0	P	Mesquite
	31	N½SW¼.	80.0	P	Tamarisk
T. 6 S., R. 12 W.,	15	E½SW¼;	80.0	P	Tamarisk
	32	S½;	320.0	S	Mesquite
	33	S½;	320.0	P	Mesquite
	33	S½N½;	160.0	P	Mesquite
	26	NE¼;	160.0	P	Mesquite
	26	NE¼SW¼;	40.0	P	Mesquite
	25	N½.	320.0	P	Mesquite
T. 6 S., R. 11 W.,	19	N½;	320.0	P	Mesquite
	19	NE¼SW¼;	40.0	P	Mesquite
	8	E½SE¼;	80.0	P	Tamarisk
	17	NE¼;	160.0	P	Prime Mesquite
	16	NW¼NW¼;	40.0	S	Prime Mesquite
	9	SW¼SW¼;	40.0	P	Prime Mesquite
	9	N½SW¼;	80.0	P	Prime Mesquite
	9	S½NW¼;	80.0	P	Prime Mesquite
	9	SW¼NE¼;	40.0	P	Prime Mesquite
	3	SW¼;	160.0	P	Prime Mesquite
	3	N½SE¼;	80.0	P	Prime Mesquite
	2	All.	640.0	P	Prime Mesquite

APPENDIX 5 (Continued)
LANDS IDENTIFIED FOR ACQUISITION TO BENEFIT WILDLIFE*

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
		Environmental Protection (Continued)			
T. 5 S., R. 11 W.,	36	All;	640.0	S	Tamarisk
	35	All;	640.0	P,S	Tamarisk
	25	N½;	320.0	P	Mesquite
	25	N½S½;	160.0	P	Mesquite
	25	SW¼SW¼.	40.0	P	Mesquite
T. 5 S., R. 10 W.,	30	N½;	320.0	P	Mesquite
	30	N½SW¼.	80.0	P	Mesquite
T. 6 S., R. 11 W.,	1	N½;	320.0	P	Mesquite
	1	N½S½.	160.0	P	Mesquite
T. 6 S., R. 10 W.,	6	NW¼.	160.0	P	Mesquite
T. 5 S., R. 10 W.,	28	E½SW¼;	80.0	P	Mesquite
	28	SW¼SW¼;	40.0	P	Mesquite
	27	W½;	320.0	P	Tamarisk/Mesquite
	27	NE¼;	160.0	S	Tamarisk
	23	E½;	320.0	S,P	Tamarisk/Mesquite
	23	SW¼;	160.0	S	Tamarisk/Mesquite
	23	E½NW¼;	80.0	S	Tamarisk
	23	SW¼NW¼;	40.0	S	Tamarisk
	26	N½N½;	160.0	S	Mesquite
	25	NW¼NW¼;	40.0	S	Mesquite
	24	All.	640.0	S,P	Mesquite
T. 4 S., R. 8 W.,	32	All.	640.0	S	Tamarisk/Mesquite
T. 5 S., R. 8 W.,	5	NE¼SE¼;	40.0	S	Mesquite
	4	N½SW¼;	80.0	S	Mesquite
	4	NW¼SE¼.	40.0	S	Mesquite
T. 1 S., R. 5 W.,	27	NE¼SW¼;	40.0	S	Tamarisk
	27	NW¼SE¼;	40.0	S	Tamarisk
	26	S½N½;	160.0	S	Tamarisk
	25	S½N½;	160.0	S	Tamarisk
	25	NE¼NE¼.	40.0	S	Tamarisk
T. 1 S., R. 4 W.,	19	S½SW¼;	80.0	P	Tamarisk
	22	NW¼NW¼;	40.0	P	Tamarisk
	14	S½S½;	160.0	P	Tamarisk
	14	N½SW¼;	80.0	P	Tamarisk
	14	NW¼SE¼;	40.0	P	Tamarisk
	14	NE¼SE¼;	40.0	S	Tamarisk
	13	W½W½SW¼;	40.0	S	Tamarisk
	24	N½.	320.0	P	Tamarisk
T. 1 S., R. 3 W.,	18	S½NW¼;	80.0	P	Tamarisk
	18	N½N½;	160.0	S	Tamarisk
	17	NE¼SW¼;	40.0	P	Tamarisk

APPENDIX 5 (Continued)
LANDS IDENTIFIED FOR ACQUISITION TO BENEFIT WILDLIFE*

Township and Range	Section	Subdivision	Acres	Status*	Habitat**
		Environmental Protection (Continued)			
T. 1 S., R. 3 W.,	17	S½NW¼;	80.0	P	Tamarisk
(Continued)	16	All;	640.0	S	Tamarisk
	15	N½NW¼;	80.0	P	Tamarisk
	15	SW¼SW¼.	40.0	P	Tamarisk
T. 1 S., R. 2 W.,	7	N½S½;	160.0	P	Tamarisk
	5	NE¼SE¼;	40.0	P	Tamarisk
	35	S½SE¼;	80.0	P	Tamarisk
	35	SE¼SW¼;	40.0	P	Tamarisk
	36	All.	640.0	S	Tamarisk
T. 1 N., R. 1 W.,	31	N½N½;	160.0	S	Tamarisk
	34	N½SW¼;	80.0	P	Tamarisk
	36	S½.	320.0	S	Tamarisk
T. 2 S., R. 5 W.,	2	All.	640.0	S	Saguaro Paloverde
T. 5 N., R. 17 W.,	16	S½;	320.0	S	Bighorn/Tortoise
	32	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 5 N., R. 18 W.,	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 4 N., R. 18 W.,	36	N½;	320.0	S	Bighorn/Tortoise
	36	SE¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 N., R. 18 W.,	2	N½NW¼;	80.0	S	Bighorn/Tortoise
	2	NE¼;	160.0	S	Bighorn/Tortoise
	2	SW¼SW¼.	40.0	S	Bighorn/Tortoise
T. 2 N., R. 11 W.,	32	NW¼;	160.0	S	Bighorn/Tortoise
	32	NE¼;	160.0	S	Bighorn/Tortoise
	32	SW¼;	160.0	S	Bighorn/Tortoise
	32	NW¼SE¼.	40.0	S	Bighorn/Tortoise
T. 3 S., R. 1 E.,	2	All.	640.0	S	Bighorn/Tortoise
T. 9 S., R. 1 E.,	2	All.	640.0	S	Vekol grassland

* S = State Land; P = Private Land

** Prime Mesquite - Mature mesquite trees arranged in a tight canopy; excellent dove, quail, and rabbit habitat.
Mesquite - Mesquite trees arranged in an open canopy; good dove, quail, and rabbit habitat.
Tamarisk - Tight canopy of saltcedar; good whitewing habitat.
Saguaro-Paloverde - Desert habitat containing saguaro cactus and paloverde as dominant plant species..
Bighorn Sheep/Desert Tortoise - Saguaro-paloverde habitat crucial for bighorn or desert tortoise.
Vekol Grassland - A unique grassland habitat in south Vekol Valley.

SOURCE: Phoenix District Files

APPENDIX 6
LANDS SUITABLE FOR SPLIT-ESTATE ACQUISITION TO BENEFIT WILDERNESS
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres
		Proposed Action	
WSA 2-128			
T. 2 N., R. 11 W.,	32:	S½SE¼, NE¼SE¼;	120.00
T. 1 S., R. 11 W.,	2:	All but SE¼.	441.00
		TOTAL:	561.00
		No Action	
		No split-estate lands proposed for acquisition.	
		Resource Protection	
WSA 2-127			
T. 1 N., R. 14 W.	36:	N½, SW¼, NE¼SE¼.	520.00
WSA 2-128			
T. 2 N., R. 11 W.,	32:	E½SE¼, SW¼SE¼;	120.00
T. 1 N., R. 10 W.,	36:	W½, W½SE¼;	400.00
T. 1 S., R. 11 W.	2:	All but SE¼;	441.00
T. 1 S., R. 10 W.,	2:	All.	640.00
WSA 2-157			
T. 3 S., R. 3 S.,	32:	All;	640.00
T. 3 S., R. 4 W.,	36:	All.	640.00
		TOTAL:	3,401.00

APPENDIX 6 (Continued)
LANDS SUITABLE FOR SPLIT-ESTATE ACQUISITION
TO BENEFIT WILDERNESS

Township and Range	Section	Subdivision	Acres
		Environmental Protection	
WSA 2-125			
T. 3 N., R. 18 W.,	36:	N½;	320.00
T. 3 N., R. 15 W.,	32:	SW¼, SW¼NW¼.	200.00
WSA 2-126			
T. 1 N., R. 14 W.,	16:	All;	640.00
	32:	All but NW¼NW¼.	600.00
WSA 2-127			
T. 1 N., R. 14 W.,	2:	All;	640.00
	36:	N½, SW¼ and NE¼SE¼.	520.00
T. 2 N., R. 14 W.,	36:	SE¼, N½SW¼.	240.00
WSA 2-128			
T. 2 N., R. 11 W.,	16:	SW¼, SW¼NW¼, S½SE¼, NW¼SE¼;	320.00
	32:	E½SE¼ and SW¼SE¼;	120.00
	36:	E½SE¼.	80.00
T. 2 N., R. 10 W.	32:	All but N½NE¼.	560.00
T. 1 N., R. 10 W.	36:	W½, W½SE¼.	400.00
T. 1 S., R. 11 W.	2:	All but SE¼.	441.00
T. 1 S., R. 10 W.	2:	All.	640.00
WSA 2-129			
T. 2 S., R. 11 W.	32:	SE¼SE¼.	40.00
WSA 2-138			
T. 2 S., R. 7 W.	32:	All;	640.00
	36:	All.	640.00

APPENDIX 6 (Continued)
LANDS SUITABLE FOR SPLIT-ESTATE ACQUISITION
TO BENEFIT WILDERNESS

Township and Range	Section	Subdivision	Acres
		Environmental Protection (Continued)	
WSA 2-157			
T. 2 S., R. 3 W.	36:	S½, S½N½.	480.00
T. 3 S., R. 3 W.	2:	All;	640.00
	32:	All;	640.00
	36:	All.	640.00
T. 3 S., R. 4 W.	36:	All.	640.00
T. 3 S., R. 2 W.	16:	All;	640.00
	32:	All.	640.00
T. 4 S., R. 4 W.	36:	All.	640.00
WSA 2-163			
T. 5 S., R. 3 W.	36:	All.	640.00
T. 6 S., R. 3 W.	2:	E½E½.	160.00
WSA 2-172			
T. 7 S., R. 1 E.	36:	All.	640.00
T. 8 S., R. 1 E.	2:	All.	640.00
		TOTAL:	14,081.00

SOURCE: Phoenix District files

APPENDIX 7
LANDS SUITABLE FOR SURFACE AND
MINERAL ACQUISITIONS TO BENEFIT WILDERNESS
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres
Proposed Action			
WSA 2-128			
T. 2 N., R. 11 W.,	32:	N½, SW¼, NW¼SE¼.	520.00
T. 1 S., R. 11 W.,	1:	SW¼;	160.00
	2:	SE¼;	160.00
	3:	All;	601.00
	4:	All;	601.00
	5:	All.	601.00
		TOTAL:	2,643.00
No Action and Resource Production			
No surface or mineral acquisitions.			
Resource Protection			
WSA 2-127			
T. 1 N., R. 14 W.,	36:	S½SE¼, NW¼SE¼;	120.00
T. 1 N., R. 13 W.,	36:	N½.	320.00
WSA 1-128			
T. 2 N., R. 11 W.,	32	N½, SW¼, NW¼SE¼.	520.00
T. 1 S., R. 11 W.,	1	SW¼;	160.00
	2	SE¼;	160.00
	3	All;	601.00
	4	All;	601.00
	5	All.	601.00
		TOTAL:	3,083.00

APPENDIX 7 (Continued)
LANDS SUITABLE FOR SURFACE AND
MINERAL ACQUISITIONS TO BENEFIT WILDERNESS

Township and Range	Section	Subdivision	Acres
		Environmental Protection	
WSA 2-126A			
T. 1 N., R. 14 W.,	32:	NW¼NW¼.	40.00
WSA 1-127			
T. 2 N., R. 14 W.,	36:	N½, S½SW¼.	400.00
T. 1 N., R. 13 W.,	2	NE¼NE¼;	40.00
	16:	N½SW¼;	480.00
	36:	N½.	320.00
T. 1 N., R. 14 W.,	36:	NW¼SE¼, S½SE¼.	120.00
WSA 2-128			
T. 2 N., R. 10 W.,	30	SW¼, S½SE¼;	200.00
	33:	SW¼.	160.00
T. 2 N., R. 11 W.,	32:	N½, SW¼, NW¼SE¼;	520.00
	36:	All but E½SE¼.	560.00
T. 2 N., R. 12 W.,	2:	SW¼SW¼.	40.00
T. 1 S., R. 11 W.	1:	SW¼;	160.00
	2:	SE¼;	160.00
	3:	All;	640.00
	4:	All;	640.00
	5:	All.	640.00
T. 1 S., R. 10 W.,	19:	S½;	320.00
	30:	NW¼NW¼.	40.00
T. 1 S., R. 11 W.	24:	SE¼;	160.00
	25:	N½, W½SW¼;	400.00
	26:	S½N½, N½S½.	320.00
WSA 2-157			
T. 3 S., R. 2 W.,	5	SW¼.	160.00
		TOTAL:	6,396.00

SOURCE: Phoenix District files

APPENDIX 8
LANDS SUITABLE FOR ACQUISITION FOR BOTANICAL PROTECTION
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres
T. 13 S., R. 5 W.,	36:	All.	640.00
T. 13 S., R. 6 W.,	36:	All.	640.00
T. 3 S., R. 1 E.,	2:	All.	640.00
T. 2 N., R. 11 W.,	32:	NE¼, NW¼, SW¼, NW¼SE¼.	520.00
		TOTAL	2,440.00

Proposed Action	No Action	Resource Production	Resource Protection	Environmental Protection
2,440	0	0	2,440	2,440

SOURCE: Phoenix District files

APPENDIX 9
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision		Acres
T. 1 S., R. 3 W.,	32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,280.00
T. 2 S., R. 3 W.,	2	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 3 S., R. 3 W.,	2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL:	2,560.00
T. 5 S., R. 3 W., Sec.	16:	SW¼, N½SE¼, SE¼SE¼;		280.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL:	1,560.00
T. 6 S., R. 3 W., Sec.	2:	E½NE¼;		80.00
	36:	All.		640.00
			TOTAL:	720.00
T. 7 S., R. 3 W., Sec.	2:	E½NE¼;		80.00
	16:	SE¼;		160.00
	32:	SE¼, SE¼SW¼.		200.00
			TOTAL:	440.00
T. 1 S., R. 4 W.,	32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,280.00
T. 4 S., R. 4 W., Sec.	2:	All;		640.00
	36:	All.		640.00
			TOTAL	1,280.00
T. 5 S., R. 4 W., Sec.	16:	All;		640.00
	36:	All.		640.00
			TOTAL	1,280.00
T. 6 S., R. 4 W., Sec.	2:	All;		640.00
	16:	All;		640.00
	28:	NW¼SE¼;		320.00
	32:	All;		640.00
	34:	N½;		320.00
	36:	All.		640.00
			TOTAL	3,200.00

APPENDIX 9 (Continued)
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)

Township and Range	Section	Subdivision		Acres
T. 7 S., R. 4 W.,	Sec. 2:	NW¼SE¼;		320.00
	16:	N½, N½S½.		480.00
			TOTAL	800.00
T. 12 S., R. 4 W.,	Sec. 16:	All.		640.00
			TOTAL	640.00
T. 3 S., R. 4 W.,	Sec. 2:	SW¼, S½NW¼;		240.00
	32:	W½;		320.00
	36:	All.		640.00
			TOTAL	1,200.00
T. 1 S., R. 5 W.,	Sec. 3:	S½N½;		160.00
	36:	W½NE¼.		480.00
			TOTAL	640.00
T. 6 S., R. 5 W.,	Sec. 16:	All.		640.00
			TOTAL	640.00
T. 11 S., R. 5 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 12 S., R. 5 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 14 S., R. 5 W.,	Sec. 2:	S½, NW¼, E½NE¼;		560.00
	16:	All.		640.00
			TOTAL	1,200.00
T. 6 S., R. 6 W.,	Sec. 36:	E½SE¼.		80.00
			TOTAL	80.00
T. 7 S., R. 6 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00

APPENDIX 9 (Continued)
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)

Township and Range	Section	Subdivision		Acres
T. 11 S., R. 6 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 12 S., R. 6 W.,	Sec. 2:	All;		640.00
	16:	All;		630.00
	36:	S½, S½NE¼, NE¼NE¼.		440.00
			TOTAL	1,710.00
T. 13 S., R. 6 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All.		640.00
			TOTAL	1,920.00
T. 14 S., R. 6 W.,	Sec. 32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,280.00
T. 1 N., R. 7 W.,	Sec. 2:	W½, W½NE¼, W½NE¼SE¼;		420.00
	16:	All;		640.00
	32:	All;		640.00
	36:	N½, SE¼.		480.00
			TOTAL	2,180.00
T. 2 S., R. 7 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 4 S., R. 7 W.,	Sec. 32:	SE¼.		160.00
			TOTAL	160.00
T. 6 S., R. 7 W.,	Sec. 32:	S½SW¼, NW¼SW¼.		120.00
			TOTAL	120.00
T. 7 S., R. 7 W.,	Sec. 32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,280.00
T. 1 N., R. 8 W.,	Sec. 16:	S½, NE¼, E½NW¼.		560.00
			TOTAL	560.00
T. 1 S., R. 8 W.,	Sec. 36:	All.		640.00
			TOTAL	640.00

APPENDIX 9 (Continued)
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)

Township and Range	Section	Subdivision		Acres
T. 6 S., R. 8 W.,	Sec. 16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,920.00
T. 7 S., R. 8 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 1 S., R. 9 W.,	Sec. 16:	E½SE¼;		80.00
	32	All;		640.00
	36:	All.		640.00
			TOTAL	1,360.00
T. 5 S., R. 9 W.,	Sec. 2:	All;		640.00
	10:	N½SW¼;		80.00
	16:	All;		640.00
	36:	All.		640.00
			TOTAL	2,000.00
T. 6 S., R. 9 W.,	Sec. 2:	All;		640.00
	9:	S½SE¼;		80.00
	16:	All;		640.00
	22:	SW¼, NE¼.		40.00
			TOTAL	1,400.00
T. 7 S., R. 9 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 2 N., R. 10 W.,	Sec. 2:	All;		640.00
	32:	All.		640.00
			TOTAL	1,280.00
T. 1 N., R. 10 W.,	Sec. 36	All.		640.00
			TOTAL	640.00
T. 1 S., R. 10 W.,	Sec. 2:	All;		640.00
	16:	W½, NE¼, E½SE¼;		560.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,480.00
T. 4 S., R. 10 W.,	Sec. 13:	All;		640.00
	12:	SE¼, E½SW¼.		240.00
			TOTAL	880.00

APPENDIX 9 (Continued)
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)

Township and Range	Section	Subdivision		Acres
T. 6 S., R. 10 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	N½;		320.00
	36:	N½SE¼.		80.00
			TOTAL	1,680.00
T. 3 N., R. 11 W.,	Sec. 2:	All.		640.00
			TOTAL	640.00
T. 2 N., R. 11 W.,	Sec. 16:	All;		640.00
	32:	S½SE¼, NE¼SE¼;		120.00
	36:	E½SE¼.		80.00
			TOTAL	840.00
T. 1 S., R. 11 W.,	Sec. 2:	N½, SW¼.		480.00
			TOTAL	480.00
T. 4 S., R. 11 W.,	Sec. 29:	NE¼.		160.00
			TOTAL	160.00
T. 7 S., R. 11 W.,	Sec. 15:	SE¼.		160.00
			TOTAL	160.00
T. 3 N., R. 12 W.,	Sec. 2:	All;		640.00
	12:	N½;		320.00
	16:	All;		640.00
	27:	SW¼;		160.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	3,040.00
T. 2 S., R. 12 W.,	Sec. 36	S½NW¼, NW¼NW¼.		120.00
			TOTAL	120.00
T. 4 S., R. 12 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 5 S., R. 12 W.,	Sec. 2:	N½, SW¼, W½SE¼, NE¼SE¼.		600.00
			TOTAL	600.00
T. 6 S., R. 12 W.,	Sec. 15:	W½SW¼.		80.00
			TOTAL	80.00

APPENDIX 9 (Continued)
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)

Township and Range	Section	Subdivision		Acres
T. 4 S., R. 13 W., Sec.	2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 3 N., R. 14 W., Sec.	2:	All;		640.00
	32:	S½.		320.00
			TOTAL	960.00
T. 2 N., R. 14 W., Sec.	2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	N½S½, S½SE¼.		240.00
			TOTAL	2,160.00
T. 1 N., R. 14 W., Sec.	2:	All;		640.00
	16:	All;		640.00
	32:	S½, NE¼, NE¼NW¼;		520.00
	36:	N½, SW¼, NE¼SE¼.		520.00
			TOTAL	2,320.00
T. 8 S., R. 14 W., Sec.	35:	E½SE¼SE¼;		20.00
	36:	N½NE¼.		80.00
			TOTAL	100.00
T. 4 N., R. 15 W., Sec.	32:	All;		640.00
	36:	W½.		320.00
			TOTAL	960.00
T. 3 N., R. 15 W., Sec.	2:	W½, NE¼, SW¼NE¼SW¼;		490.00
	16:	All;		640.00
	32:	All.		640.00
			TOTAL	1,770.00
T. 6 N., R. 16 W., Sec.	2:	All;		640.00
	32:	W½.		320.00
			TOTAL	960.00
T. 5 N., R. 16 W., Sec.	2:	NE¼NE¼;		40.00
	16:	All;		640.00
	32:	All.		640.00
			TOTAL	1,320.00
T. 4 N., R. 16 W., Sec.	2:	All;		640.00
	16:	All;		640.00
	32:	All.		640.00
			TOTAL	1,920.00

APPENDIX 9 (Continued)
FEDERAL SURFACE (NON-FEDERAL MINERALS)
(Mineral Estate Acres Proposed for Acquisition)

Township and Range	Section	Subdivision		Acres
T. 7 N., R. 17 W.,	Sec. 2:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,920.00
T. 6 N., R. 17 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	S½;		320.00
	36:	All.		640.00
			TOTAL	2,240.00
T. 4 N., R. 18 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	N½SE¼, SW¼SE¼.		120.00
			TOTAL	2,040.00
T. 3 N., R. 18 W.,	Sec. 16:	All;		640.00
	32:	All;		640.00
	36:	N½.		320.00
			TOTAL	1,600.00
T. 2 S., R. 1 W.,	Sec. 2:	All.		640.00
			TOTAL	640.00
T. 3 S., R. 1 W.,	Sec. 27:	W½;		320.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	1,600.00
T. 4 S., R. 1 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00
T. 1 S., R. 2 W.,	Sec. 4:	SW¼NW¼;		40.00
	32:	N½, SE¼;		480.00
	36:	All.		640.00
			TOTAL	1,160.00
T. 3 S., R. 2 W.,	Sec. 2:	All;		640.00
	16:	All;		640.00
	32:	All;		640.00
	36:	All.		640.00
			TOTAL	2,560.00

SOURCE: Phoenix District maps and files

APPENDIX 10
FEDERAL MINERALS (NON-FEDERAL SURFACE)
(Mineral Estate Acres Proposed for Disposal)
Bureau of Land Management, Phoenix District, Arizona

Township and Range	Section	Subdivision	Acres
T. 1 S., R. 2 W.,	Sec. 21:	W½NE¼, SE¼, N½SW¼, S½NW¼, SE¼SW¼;	440.00
	30:	N½NW¼NW¼, NW¼NE¼, NW¼.	220.00
		TOTAL	660.00
T. 1 S., R. 3 W.,	8	W½SE¼, NE¼SE¼;	120.00
	9:	NE¼, SW¼NE¼, SE¼NW¼, N½SW¼, NW¼SE¼.	360.00
		TOTAL	480.00
T. 1 S., R. 4 W.,	34:	All:	640.00
	35:	All.	640.00
		TOTAL	1,280.00
T. 4 S., R. 4 W.,	Sec. 18:	W½W½.	160.00
		TOTAL	160.00
T. 5 S., R. 4 W.,	Sec. 26:	W½;	320.00
	28:	S½, NE¼;	480.00
	33:	N½NW¼.	80.00
		TOTAL	880.00
T. 6 S., R. 4 W.,	Sec. 4:	SW¼, E½SE¼.	240.00
		TOTAL	240.00
T. 3 S., R. 4 W.,	Sec. 18:	SW¼;	160.00
	19:	SW¼NW¼;	40.00
	30:	W½NE¼;	80.00
	11:	SW¼NW¼NW¼SW¼, NW¼NE¼NW¼SW¼, NW¼SE¼NW¼SW¼, SW¼SE¼NW¼SW¼, NW¼NW¼SW¼NW¼, Lots 88, 87, 51, 80, 16, 48, 65, 20, 21, 28, 18, 23, 19, 22, 73, 43, 44, 72, 79, 89, 90, 91, 17, 24, 29, 71.	77.50
		TOTAL	357.50
T. 3 S., R. 5 W.,	Sec. 2:	All;	640.00
	11:	SE¼SE¼;	40.00
	13:	N½N½, SE¼NE¼.	200.00
		TOTAL	880.00
T. 11 S., R. 5 W.,	Sec. 19:	SW¼, S½NW¼;	240.00
	30:	W½.	320.00
		TOTAL	560.00
T. 12 S., R. 5 W.,	Sec. 18:	W½E½;	160.00
	19:	SW¼, NW¼NE¼.	200.00
		TOTAL	360.00

APPENDIX 10 (Continued)
FEDERAL MINERALS (NON-FEDERAL SURFACE)
(Mineral Estate Acres Proposed for Disposal)

Township and Range	Section	Subdivision	Acres
T. 14 S., R. 5 W.,	Sec. 1:	E½.	320.00
		TOTAL	320.00
T. 13 S., R. 5 W.,	Sec. 25:	N½NW¼SW¼SW¼, NW¼SE¼NE¼SW¼, SW¼NE¼NE¼SW¼, S½S½NW¼NE¼SW¼, NW¼SE¼SE¼NW¼, N½SW¼SE¼SW¼, N½SE¼SE¼SW¼, S½SW¼SE¼SW¼, S½SE¼SE¼SW¼, N½NE¼SE¼NW¼, N½NE¼SE¼SW¼, S½NE¼SE¼NW¼, NW¼SE¼NW¼SW¼, NE¼SE¼NW¼SW¼, N½SW¼SW¼SW¼, S½NE¼SE¼SW¼, SW¼SE¼SE¼NW¼, SE¼NE¼NE¼SW¼, N½NW¼SE¼NW¼, N½NE¼SW¼NW¼, S½SE¼NW¼NW¼, N½SE¼SW¼NW¼, S½NW¼NW¼NW¼, N½SW¼NW¼NW¼, SW¼NE¼NW¼SW¼, E½SW¼NE¼NW¼, S½NW¼NW¼SW¼, N½SW¼NW¼SW¼, S½SW¼NW¼SW¼, N½SE¼NW¼NW¼, SW¼SE¼NE¼SW¼, S½NE¼SW¼SW¼, N½NE¼SW¼SW¼, S½NW¼SE¼NW¼, S½SE¼SW¼NW¼, SW¼SE¼NW¼SW¼, W½SW¼NE¼NW¼, NE¼SW¼NE¼SW¼, SE¼SW¼NE¼SW¼, N½NW¼NW¼NW¼, S½SW¼SW¼SW¼, N½NW¼NW¼SW¼ W½NE¼NW¼NW¼, S½NW¼SE¼SW¼, NW¼SW¼NE¼SW¼, S½SW¼SW¼NW¼ N½SE¼NE¼NW¼, N½NW¼SW¼NW¼, NE¼SE¼SE¼NW¼, NE¼NE¼NW¼SW¼, NW¼NE¼NW¼SW¼, S½SE¼SW¼SW¼, N½NE¼NE¼NW¼, S½NW¼NE¼NW¼, S½SE¼NE¼NW¼, S½SW¼NW¼NW¼, S½NE¼SW¼NW¼, N½SW¼SW¼NW¼, N½SE¼SW¼SW¼, NE¼NE¼NE¼SW¼, S½NW¼SW¼NW¼, N½NW¼NE¼NW¼, S½NE¼NE¼NW¼, S½NW¼SW¼SW¼, NW¼SE¼NW¼SW¼, NE¼SE¼NW¼SW¼, NE¼SW¼NE¼SW¼, SE¼SW¼NE¼SW¼.	285.00
		TOTAL	285.00
T. 1 S., R. 6 W.,	Sec. 5:	SW¼;	160.00
	6:	SE¼;	160.00
	7:	NE¼, E½NW¼, N½SE¼.	320.00
		TOTAL	640.00
T. 11 S., R. 6 W.,	Sec. 3:	SW¼, W½SE¼;	240.00
	10:	NW¼, W½NE¼;	240.00
	24:	E½SE¼;	80.00
	23:	E½;	320.00
	26:	N½;	320.00

APPENDIX 10 (Continued)
FEDERAL MINERALS (NON-FEDERAL SURFACE)
(Mineral Estate Acres Proposed for Disposal)

Township and Range	Section	Subdivision	Acres
T. 11 S., R. 6 W., Sec.	27:	NE¼;	160.00
(Continued)	34:	Lots 18, 4, 31, 27, 19, 30, 28, 11, 16, 17, 24, 9, 32, 25, 29, 20, 26, 1, 6, 7, 2, 10, 15, 12, 3, 5, 8, 13, 21, 23, 14.	155.00
		TOTAL	1,515.00
T. 12 S., R. 6 W., Sec.	3:	Lots 11, 22, 56, 7, 55, 32, 42, 48, 59, 62, 36, 39, 43, 20, 14, 35, 30, 61, 69, 64, 65, 46, 67, 63, 40, 15, 68, 19, 12, 18, 27, 28, 26, 53, 60, 58, 38, 24, 37, 44, 47, 49, 6, 51, 5, 45, 23, 52, 16, 17, 10, 29, 21, 41, 9, 33, 31, 54, 57, 8, 13, 25, 34, 50, 66.	320.31
T. 12 S., R. 6 W., Sec.	10:	Lots 46, 9, 30, 14, 34, 2, 37, 11, 40, 45, 28, 24, 15, 25, 38, 17, 36, 42, 35, 29, 31, 32, 8, 23, 18, 20, 39, 10, 41, 27, 44, 3, 16, 1, 19, 21, 22, 6, 13, 26, 7, 43, 4, 5, 12, 33, S½SE¼SW¼NE¼, SE¼SE¼NE¼SW¼, W½SW¼SW¼NW¼SE¼, W½SW¼NW¼SW¼, SE¼SW¼NW¼SE¼, E½SW¼SW¼NW¼SE¼, W½SW¼SW¼NW¼, E½NW¼SW¼SW¼NE¼, NE¼SW¼SW¼NE¼, E½NE¼NW¼NW¼, E½NW¼NW¼SW¼, W½SE¼NW¼SW¼, N½SE¼SE¼NE¼, S½NW¼NE¼NE¼, SE¼SE¼SE¼NW¼, W½SW¼SW¼SW¼NE¼, NE¼NE¼NE¼SW¼, W½NW¼NW¼NW¼SE¼, SE¼SW¼SW¼NE¼, E½SW¼SW¼SW¼NE¼, N½NE¼SW¼NE¼, S½NE¼SW¼NE¼, SE¼NW¼SW¼NE¼, E½SW¼NW¼SW¼NE¼, N½NW¼NE¼NE¼, N½SW¼NE¼NE¼, NE¼NE¼SE¼NW¼, W½NW¼NW¼SW¼NE¼, SE¼NE¼SE¼NW¼, W½SW¼NW¼SW¼NE¼, W½NW¼NW¼SW¼, N½SE¼SW¼NE¼, SE¼NW¼NW¼SE¼, E½SW¼NW¼NW¼SE¼, E½SE¼NW¼SW¼, E½SW¼NW¼SW¼, W½NE¼SW¼NW¼, E½SW¼SW¼NW¼, W½NW¼SW¼NW¼, E½NW¼SW¼NW¼, S½SW¼NE¼NE¼, N½SE¼NW¼SE¼, S½NE¼NW¼SE¼, NE¼SW¼NW¼SE¼, E½NW¼SW¼NW¼SE¼, S½SE¼NW¼SE¼, SE¼NE¼NE¼SW¼, W½SW¼NW¼NW¼SE¼, W½SE¼SW¼NW¼, E½SE¼SW¼NW¼, NE¼SE¼NE¼SW¼, W½NW¼SW¼NW¼SE¼, E½NW¼NW¼SW¼, W½SE¼NW¼SW¼, E½NE¼NW¼NW¼, N½SE¼SE¼NE¼, W½NE¼NW¼NW¼, W½SW¼SW¼NW¼.	273.21
		TOTAL	593.52

APPENDIX 10 (Continued)
FEDERAL MINERALS (NON-FEDERAL SURFACE)
(Mineral Estate Acres Proposed for Disposal)

Township and Range	Section	Subdivision	Acres
T. 12 S., R. 6 W.,	Sec. 14:	W½SW¼NW¼;	20.00
	15:	W½NW¼;	80.00
	16:	SE¼NW¼SW¼NE¼, NE¼SW¼SW¼NE¼, SW¼NE¼SW¼NE¼, NW¼SE¼SW¼NE¼;	10.00
	17:	W½NW¼NE¼SE¼.	5.00
		TOTAL	115.00
T. 14 S., R. 6 W.,	Sec. 24:	E½.	320.00
		TOTAL	320.00
T. 4 S., R. 8 W.,	Sec. 17:	E½SE¼.	80.00
		TOTAL	80.00
T. 5 S., R. 8 W.,	Sec. 2:	NE¼.	160.00
		TOTAL	160.00
T. 1 N., R. 9 W.,	Sec. 4:	SE¼SE¼.	40.00
		TOTAL	40.00
T. 4 S., R. 10 W.,	Sec. 18:	NE¼.	160.00
		TOTAL	160.00
T. 3 N., R. 11 N.,	Sec. 19:	N½.	320.00
		TOTAL	320.00
T. 6 S., R. 11 W.,	Sec. 25:	S½.	320.00
		TOTAL	320.00
T. 7 S., R. 11 W.,	Sec. 27:	All;	640.00
	28:	SE¼, N½N½.	320.00
		TOTAL	960.00
T. 4 N., R. 15 W.,	Sec. 18:	All;	640.00
	7:	W½;	320.00
	21:	W½;	320.00
	22:	N½;	320.00
	23:	NW¼;	160.00
	15:	E½, NE¼;	480.00
	14:	W½, NE¼;	480.00
	26:	N½;	320.00
	27:	N½.	320.00
		TOTAL	3,360.00
T. 6 N., R. 16 W.,	Sec. 8:	SW¼SW¼;	40.00
	9:	N½, SE¼, NE¼NW¼;	520.00
	10:	All;	640.00
	11:	All;	640.00
	16:	All;	640.00
	17:	W½;	320.00

APPENDIX 10 (Continued)
FEDERAL MINERALS (NON-FEDERAL SURFACE)
(Mineral Estate Acres Proposed for Disposal)

Township and Range	Section	Subdivision	Acres
T. 6 N., R. 16 W.,	Sec. 18:	SE¼SE¼;	40.00
	29:	E½;	320.00
	32:	E½;	320.00
	33:	N½;	320.00
	34:	S½.	320.00
		TOTAL	4,120.00
T. 5 N., R. 16 W.,	Sec. 1:	N½;	320.00
	3:	SE¼, SE¼SW¼, W½NW¼, NE¼NW¼;	320.00
	11:	N½;	320.00
	22:	E½;	320.00
	23:	S½, S½N½;	480.00
	25:	E½;	320.00
	27:	All;	640.00
	35:	All.	640.00
		TOTAL	3,360.00
T. 7 N., R. 17 W.,	Sec. 22:	N½, NE¼SE¼NW¼.	330.00
		TOTAL	330.00

SOURCE: Phoenix District maps and files

APPENDIX 11
STOCKING RATES (AUMS) BY ALTERNATIVE
Bureau of Land Management, Phoenix District, Arizona

Allotment*		Proposed Action		No Action		Resource Production		Resource Protection		Environmental Protection	
Number	Name	S.T.	L.T.**	S.T.	L.T.	S.T.	L.T.	S.T.	L.T.	S.T.	L.T.
3007	Beloat	3,492	3,842	3,492	3,492	3,296	4,038	2,084	2,084	0	0
3009	Bighorn	6,240	6,490	6,240	6,240	5,915	6,815	3,355	3,355	0	0
3013	Cameron	2,526	2,626	2,526	2,526	2,283	2,869	981	981	0	0
3016	Childs	3,802	3,802	3,802	3,802	3,398	4,800	1,729	1,729	0	0
3017	Clem	3,216	3,216	3,216	3,216	2,785	3,216	879	879	0	0
3018	Conley	4,158	4,158	4,158	4,158	3,958	4,358	1,786	1,786	0	0
3020	Coyote Flat	456	456	456	456	388	456	388	388	0	0
3022	Crowder-Weisser	15,758	15,758	15,758	15,758	13,520	15,758	8,768	8,768	0	0
3028	Eagle Tail	2,100	2,310	2,100	2,100	1,894	2,516	521	521	0	0
3032	Gable-Ming	4,200	4,200	4,200	4,200	3,519	4,200	1,360	1,360	0	0
3035	Gila Bend Indians	583	583	583	583	509	583	509	509	0	0
3039	Hansen	921	921	921	921	746	921	620	620	0	0
3042	Hazen	1,440	1,526	1,440	1,440	1,238	1,728	542	542	0	0
3046	Kirian	387	387	387	387	352	387	306	306	0	0
3047	Ranegras Plain	1,862	1,937	1,862	1,862	1,713	1,937	1,713	1,713	0	0
3053	Lower Vekol	1,165	1,165	1,165	1,165	1,095	1,165	813	813	0	0
3076	Sentinel	361	378	361	361	303	437	214	214	0	0
3080	South Vekol	1,863	2,049	1,863	1,863	1,738	2,174	1,182	1,182	0	0
3083	Table Top	1,710	1,778	1,710	1,710	1,659	1,829	1,038	1,038	0	0
3085	Vekol	840	874	840	840	798	916	452	452	0	0
3086	Ward	1,476	1,476	1,476	1,476	1,299	1,476	878	878	0	0
3091	Why	456	456	456	456	397	456	284	284	0	0
	TOTALS	59,012	60,388	59,012	59,012	52,803	63,035	30,402	30,402	0	0
Allotment Statistics											
22	Perennial-Ephemeral Allotments	59,012	60,388	59,012	59,012	52,803	63,035	30,402	30,402	0	0
18	Ephemeral Allotments (Custodial)	0	0	0	0	0	0	0	0	0	0
8	Perennial-Ephemeral Leases	1,512	1,512	1,512	1,512	1,512	1,512	1,512	1,512	0	0
48	Total Allotments	60,524	61,900	60,524	60,524	54,315	64,547	31,914	31,914	0	0
	% Reduction	0	+2%	0	0	-10%	+6%	-47%	-47%	-100%	-100%

* Perennial-Ephemeral allotments only.
** S.T. = Short Term; L.T. = Long Term.
SOURCE: Lower Gila Resource Area grazing files

APPENDIX 12
GRAZING ALLOTMENT CATEGORIES
Bureau of Land Management, Phoenix District, Arizona

Maintain Category Criteria

- Present range condition is satisfactory.
- Allotments have moderate or high resource production potential and are producing near their potential (or trend is moving in that direction).
- No serious resource-use conflicts/controversy exist.
- Opportunities may exist for positive economic return from public investments.
- Present management appears satisfactory.
- Other criteria appropriate to EIS area.

Improve Category Criteria

- Present range condition is unsatisfactory.
- Allotments have moderate to high resource production potential and are producing at low to moderate levels.
- Serious resource-use conflicts/controversy exists.
- Opportunities exist for positive economic return from public investments.
- Present management appears unsatisfactory.
- Other criteria appropriate to EIS area.

Custodial Category Criteria

- Present range condition is not a factor.
- Allotments have low resource production potential and are producing near their potential.
- Limited resource-use conflicts/controversy may exist.
- Opportunities for positive economic return on public investment do not exist or are constrained by technological or economic factors.
- Present management appears satisfactory or is the only logical practice under existing resource conditions.
- Other criteria appropriate to EIS area.

SOURCE: Grazing Policy (IM-82-292)

APPENDIX 13
RANGE DEVELOPMENT TYPES
Bureau of Land Management, Phoenix District, Arizona

Following is a discussion of typical design features and construction practices for range improvements and treatments proposed in this plan. There are many special design features that are not specifically discussed in this appendix. These design features will be developed, if needed, for individual projects at the time an environmental assessment is written.

Structural Improvements

Fences. All fences would be built to BLM manual specifications. Normally fences would be constructed to provide exterior allotment boundaries, divide allotments into pastures, protect streams, and control livestock. Most fences would be three-wire or four-wire with steel posts spaced 16-1/2 feet apart with intermediate wire stays. Existing fences that create wildlife movement problems would be modified. Proposed fence lines would usually not be bladed or scraped. Gates or cattleguards would be installed where fences cross existing roads.

Reservoirs. Reservoir sites would be selected based on available watershed and hydrologic information. All applicable state laws and regulations would be followed.

Wells. Well sites would be selected based on geologic reports that predict the depth to reliable aquifers. The typical well site would consist of a windmill or jack-pump with motor, a large storage tank, and a water trough. All applicable state laws and regulations that apply to ground water would be observed.

SOURCE: Yuma RMP/EIS, 1985

APPENDIX 14
VEGETATION METHODOLOGY
Bureau of Land Management, Phoenix District, Arizona

Inventory Criteria

The Phoenix District completed a rangeland survey of the Lower Gila South RMP/EIS area from 1980-1981, using BLM's rangeland inventory method for mapping and the Soil Conservation Service (SCS) method for determining condition and trend.

BLM resource specialists used recent natural-color aerial photographs, topographic maps, soil survey information, and a helicopter to map preliminary range sites or complexes of range sites. SCS provided technical range site guides for the planning area, and the Arizona State Land Department inventoried state lands concurrently, using the range site concept.

Determination of Rangeland Condition and Apparent Trend*

Rangeland Condition. The rangeland condition of areas within a range site was determined by comparing the present plant community to the climax plant community, as shown by the technical guide for the site. For the existing plant community, specialists counted no more than the maximum weight (or percentage of total production) shown on the guide for any species in the climax plant community.

The amount of all climax species not exceeding that shown on the guide was totaled to show the relative ecological rating or numerical evaluation of the stand. The rating will range from 0 to 100, depending on how closely the plant community resembles the climax plant community for the range site.

the following four classes were used to express the degree to which the present plant community composition reflects climax composition.

Range Condition Class	Percentage of Present Plant Community that is Climax for the Range Site
Excellent	76-100
Good	51-75
Fair	26-50
Poor	0-25

Guides based on the weight of species in the climax plant community truly express ecological condition. A condition rating based on the percentage of composition alone may be adjusted if the total production is less than that characteristic for the condition class. For example, a rating determined by counting the percentage of each climax species may show that the existing plant community is in near-climax condition but that the production of these species is less than expected for near-climax condition. The condition rating can then be lowered, considering current growing condition.

Apparent Trend. The present ecological rangeland condition rating alone does not tell whether the plant community is improving or deteriorating in relation to its potential. Trend is a separate means needed for assessing what is happening to the plant community. Existing rangeland condition results from a sustained trend over time. Trend should be known when planning the use, management, and treatment for maintaining or improving rangeland. The following vegetation and soil characteristics, showing apparent trend in rangeland condition, were evaluated in the field during the rangeland survey: plant composition; seedling and young plant abundance; plant residues; plant vigor; and solid surface factors such as bare ground, soil crusting, stone cover, compaction, plant hummocking, and soil movement.

SOURCE: SCS Rangeland Handbook

APPENDIX 15
RANGELAND CONDITION AND APPARENT TREND
(Perennial-Ephemeral Allotments Only)
Bureau of Land Management, Phoenix District, Arizona

Allotment Number	Allotment Name	Federal Acres	Preference	Condition (%) Poor	Fair	Good	Excellent	Apparent Trend (%) Up	Static	Down
3007	Beloat	125,936	3,492	2	24	63	11	37	61	2
3009	Bighorn	146,336	6,240	1	24	59	16	0	100	0
3013	Cameron	55,926	2,526	7	34	59	0	0	97	3
3016	Childs	99,326	3,802	10	33	50	0	0	100	0
3017	Clem	82,252	3,216	17	33	50	0	0	100	0
3018	Conley	91,586	4,158	2	20	66	12	19	73	8
3020	Coyote Flat	10,789	456	10	54	36	0	0	100	0
3022	Crowder-Weisser	234,645	15,758	21	29	43	7	3	89	8
3028	Eagle Tail	188,230	2,100	18	13	60	9	17	83	0
3032	Gable-Ming	121,421	4,200	8	65	13	14	0	100	0
3035	Gila Bend Indians	18,460	583	6	51	33	10	10	80	10
3039	Hansen	18,968	921	27	41	32	0	0	81	19
3042	Hazen	42,484	1,440	15	40	45	0	0	100	0
3046	Kirian	17,094	387	0	44	33	23	14	86	0
3047	Ranegras Plain	128,466	1,862	6	27	66	1	6	94	0
3053	Lower Vekol	21,892	1,165	4	24	59	13	17	83	0
3076	Sentinel	18,564	361	4	70	26	0	2	97	1
3080	South Vekol	49,349	1,863	3	31	34	32	1	96	3
3083	Table Top	35,940	1,710	1	11	85	3	6	90	4
3085	Vekol	20,848	840	0	23	28	49	6	94	0
3086	Ward	34,893	1,476	5	48	42	5	0	86	14
3091	Why	10,489	456	12	41	47	0	0	100	0
	TOTAL	1,573,894								

SOURCE: Lower Gila Resource Area grazing files

APPENDIX 16
DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM
Bureau of Land Management, Phoenix District, Arizona

AREAS WITH SOLITUDE OR PRIMITIVE RECREATION OPPORTUNITIES*

SMSA	Status	No.	Acres	States	Administering** Agency
Phoenix, Arizona	Designated	37	2,064,835	AZ, CA, NM	FS, NPS, BLM
	Endorsed	4	1,318,710	AZ	BLM, FS, FWS
	Study	72	3,143,139	AZ, CA, NM	BLM, FS, NPS
Tucson, Arizona	Designated	33	2,038,095	AZ, NM	FS, NPS, BLM
	Endorsed	3	1,316,200	AZ	BLM, FS, FWS
	Study	61	1,525,640	AZ, NM	BLM, FS
Las Vegas, Nevada	Existing	15	1,309,288	AZ, CA	FS, NPS, CAL, BLM
	Endorsed	25	4,679,481	AZ, CA, NV, UT	FS, NPS, FWS
	Study	253	10,607,984	AZ, CA, NV, UT	BLM, FS, NPS, CAL
Riverside, California	Designated	30	1,958,821	CA	FS, NPS, BLM, CAL
	Endorsed	28	5,033,801	AZ, CA, NV	FS, NPS, FWS
	Study	280	9,832,014	AZ, CA, NV	FS, NPS, FWS, BLM, CAL
San Diego, California	Existing	8	795,960	CA	FS, NPS, CAL
	Endorsed	18	1,520,660	AZ, CA,	FS, NPS, FWS
	Study	200	7,463,251	AZ, CA, NV,	BLM, FS, NPS, CAL

* Within a day's drive of Phoenix, Tucson, Las Vegas, Riverside, and San Diego SMSAs.
** BLM = Bureau of Land Management; FS = Forest Service; FWS = Fish and Wildlife Service; NPS = National Park Service; CAL = State of California
SOURCE: BLM, Profile 2, Wilderness Diversity Computer Reports, Phoenix District files

APPENDIX 16 (Continued)
DIVERSITY IN THE NATIONAL WILDERNESS PRESERVATION SYSTEM

DESIGNATED WILDERNESS IN ARIZONA

Wilderness Areas	Acreage	Managing Agency
Apache Creek	5,420	U.S. Forest Service
Cedar Bench	14,950	U.S. Forest Service
Chiricahua	87,700	U.S. Forest Service
Bear Wallow	11,080	U.S. Forest Service
Castle Creek	26,030	U.S. Forest Service
Escudilla	5,200	U.S. Forest Service
Fossil Springs	11,550	U.S. Forest Service
Four Peaks	53,500	U.S. Forest Service
Galiuro	76,317	U.S. Forest Service
Granite Mountain	9,800	U.S. Forest Service
Hellsgate	36,780	U.S. Forest Service
Juniper Mesa	7,600	U.S. Forest Service
Kachina Peaks	18,200	U.S. Forest Service
Kendrick Mountain	6,510	U.S. Forest Service
Mazatzal	251,707	U.S. Forest Service
Miller Peak	20,190	U.S. Forest Service
Mt. Wrightson	25,260	U.S. Forest Service
Mount Baldy	6,975	U.S. Forest Service
Munds Mountain	18,150	U.S. Forest Service
Pajarita	7,420	U.S. Forest Service
Pine Mountain	20,478	U.S. Forest Service
Pusch Ridge	56,510	U.S. Forest Service
Red Rock-Secret Mountain	43,950	U.S. Forest Service
Rincon Mountain	38,590	U.S. Forest Service
Saddle Mountain	40,600	U.S. Forest Service
Salome	18,950	U.S. Forest Service
Salt River Canyon	32,800	U.S. Forest Service
Santa Teresa	26,780	U.S. Forest Service
Sierra Ancha	20,850	U.S. Forest Service
Strawberry Crater	10,140	U.S. Forest Service
Superstition	159,756	U.S. Forest Service
Sycamore Canyon	55,942	U.S. Forest Service
West Clear Creek	13,600	U.S. Forest Service
Wet Beaver	6,700	U.S. Forest Service
Woodchute Wilderness	5,600	U.S. Forest Service
Kanab Creek	77,100	U.S. Forest Service/ Bureau of Land Management
Aravaipa Canyon	6,670	Bureau of Land Management
Beaver Dam Mountains	19,600	Bureau of Land Management
Cottonwood Point	6,500	Bureau of Land Management
Grand Wash Cliffs	36,300	Bureau of Land Management
Mt. Logan	14,600	Bureau of Land Management
Mt. Trumbull	7,900	Bureau of Land Management
Paiute	84,700	Bureau of Land Management
Paria Canyon-Vermillion Cliffs	110,000	Bureau of Land Management
Chiricahua National Monument	10,290	National Park Service
Organ Pipe National Monument	299,600	National Park Service
Petrified Forest	50,260	National Park Service
Sahuaro National Monument	71,400	National Park Service
TOTAL	2,046,505	

ADMINISTRATIVELY ENDORSED WILDERNESS STUDY AREAS IN ARIZONA

Wilderness Areas	Acreage	Managing Agency
Imperial National Wildlife Refuge	1,600	U.S. Fish and Wildlife Service
Cabeza Prieta National Wildlife Refuge	744,000	U.S. Fish and Wildlife Service
Havasu National Wildlife Refuge	2,510	U.S. Fish and Wildlife Service
Kofa	570,600	U.S. Fish and Wildlife Service
TOTAL	1,318,710	

SOURCE: BLM, Profile 2, Wilderness Diversity Computer Reports, Phoenix District files

APPENDIX 17
CULTURAL RESOURCE SITES IN THE LOWER GILA SOUTH AREA
Bureau of Land Management, Phoenix District, Arizona

Prehistoric Archaeological Sites

Hohokam/Patayan	Usually a permanent habitation area for several families over an extended period of time
Temporary Camps	Temporary habitation area
Trail Camps	Very temporary camps used for a night or two while migrating to other areas
Hunting and Gathering Camp	Temporary camp used for a few weeks as a base camp for hunting and gathering activities
Rock Shelters	Same as above except found within rock shelters
Cleared Circles	Cleared and/or smoothed depression areas on desert pavement terraces; usually used for sleeping
Rock Circles	Usually a cleared area with rocks around the edge. Rocks thought to have served as anchors for temporary brush huts
Litchic Source/ Quarry	A source area for raw lithic materials used for tool manufacture, or for minerals used for paints
Roasting Pit	A concentration of thermally affected rocks usually with ash in the soil (occasionally these will be a cremation site)
Rock Cairn	A trail marker, monument or "shrine" resulting from stones placed in a cluster or pile
Milling Station	A food preparation area where one or more grinding stones (metates, mortars, or pestles) are present
Knapping Station	Locus where cores or raw lithic materials were reduced to blanks, preforms, or tools, evidenced by a concentration of large chunks or large flakes of the same material

APPENDIX 17 (Continued)
CULTURAL RESOURCE SITES IN THE LOWER GILA SOUTH AREA

Prehistoric Archaeological Sites (cont)	
Lithic Scatter	A location used to manufacture a lithic tool, as evidenced by a scatter of lithic flakes or cores
Ceramic Scatter	A location with scattered broken pottery sherds, may be the result of the breakage of a single vessel
Hunting Blind	A semi-walled locality, usually on hilly or mountain slopes, used to hunt primarily bighorn sheep and deer
Burial/Cremation	Evidence of human burial or cremation. The latter usually contain ash and pieces of human bone
Trails	Aboriginal footpaths used to travel from area to area primarily identified by association with artifacts/features
Aboriginal Art	Geometric, zoomorphic or anthropomorphic design created by aboriginal peoples
Petroglyphs	Designs pecked, rubbed or scratched on a rock
Pictographs	Designs painted on rock
Intaglios	Large designs created on desert pavement by removal of surface gravel
Rock Alignments	Large designs created by the alignment of rocks and gravel
Isolated Artifacts	Artifacts (pottery sherds, lithic tools, etc.) found without association to an identifiable site
Historic Archaeological Sites	
Mine	Evidence of ore removal for mineral extraction, i.e., plts, holes, shafts, adits, tailings, etc.
Mill	Structures (or remains of) associated with processing minerals
Town	Aggregation of structures and other physical remains of a multifamily occupation in historic periods
Home or Cabin	Single structure and associated physical remains of a single person or family occupancy

APPENDIX 17 (Continued)
CULTURAL RESOURCE SITES IN THE LOWER GILA SOUTH AREA

	Historic Archaeological Sites
Historic Campsite	Evidence of temporary occupation by one or more families. Usually associated with temporary mining or river-related activities
Road or Trail	Evidence of historic use as a wagon or pack train route
Military	Site of a military camp or other activity, primarily remnants of General Patton's World War II manuevers
Trash Dump	Historic refuse area associated with any of the above
Grave	One or more historic burials
	Traditional Cultural/Religious Sites
Ceremonial Sites	Prehistoric or historic area of sacred character. Physical evidences of activities usually present, i.e., dance patterns, vision quest circles, intaglios, rock cairns, etc.
Sacred Areas	Prehistoric or historic area of sacred character. Evidences of physical activities not always present, i.e. sacred mountain top, power place or vision quest places, etc.
Traditional Use Areas	Areas of traditional hunting, gathering, fishing or travel
Burial or Cremation Site	Area of historic cremation or burial of their dead

SOURCE: Phoenix District files

APPENDIX 18
LOWER GILA SOUTH--RANCH CLASSES*
Bureau of Land Management, Phoenix District, Arizona

LOWER GILA SOUTH--SMALL SIZE RANCH CLASS--42 COWS TYPICAL*

Production	Quantity	Weight	Price (CWT)	Value	Value/Cow
Steer Calves	16	420	$65.67	$ 4,413	$105.07
Heifer Calves	8	365	56.00	1,635	38.93
Cull Cows	5	875	37.71	1,650	39.29
TOTAL GROSS REVENUE				$ 7,698	$183.29

Cash Costs	Units	Number of Units	Price	Value	Value/ Cow
BLM Grazing	AUMs	465	$1.86	$865	$20.59
Private Grazing	AUMs	50	0.0	0	0.0
Public Grazing - State	AUMs	67	1.02	68	1.62
Salt & Mineral	CWT	15	4.88	73	1.74
Veterinary Medicine	$	234	1.00	234	5.58
Trucking	$	74	1.00	74	1.77
Marketing	$	220	1.00	220	5.25
Hired Labor	HRS	249	4.82	1,200	28.57
Machinery (Fuel & Lube)				609	14.49
Machinery Repair				234	5.56
Equipment Repair				146	3.47
Interest on Operating Capital				232	5.53
Total Cash Costs				$3,955	$94.17
Net Revenue				$3,743	$89.11
Family Labor				2,164	51.52
Net Income				$1,579	$37.60

LOWER GILA SOUTH--MEDIUM SIZE RANCH CLASS--140 COWS TYPICAL*

Production	Quantity	Weight	Price (CWT)	Value	Value/Cow
Steer Calves	50	420	$65.67	$13,791	$98.50
Heifer Calves	29	365	56.00	5,928	42.34
Cull Cows	15	875	37.71	4,949	35.35
TOTAL GROSS REVENUE				$24,668	$176.19

Cash Costs	Units	Number of Units	Price	Value	Value/ Cow
BLM Grazing	AUMs	1,855	$1.86	$3,450	$24.64
Private Grazing	AUMs	30	0.0	0	0.0
State Grazing	AUMs	47	1.02	48	0.34
Salt & Mineral	CWT	49	4.88	239	1.70
Veterinary Medicine	$	440	1.00	440	3.14
Trucking	$	60	1.00	60	0.43
Marketing	$	461	1.00	461	3.29
Hired Labor	HRS	1,100	4.82	5,302	37.87
Machinery (Fuel & Lube)				1,036	7.40
Machinery Repair				412	2.94
Equipment (Fuel & Lube)				80	0.57
Equipment Repair				638	4.56
Interest on Operating Capital				914	6.53
Total Cash Costs				$13,080	$93.41
Net Revenue				$11,588	$82.78
Family Labor				12,000	85.71
Net Income				(- 412)	(- 2.93)

APPENDIX 18 (Continued)
LOWER GILA SOUTH--RANCH CLASSES*
Bureau of Land Management, Phoenix District, Arizona

LOWER GILA SOUTH--LARGE SIZE RANCH CLASS--518 COWS TYPICAL*

Production	Quantity	Weight	Price (CWT)	Value	Value/Cow
Steer Calves	170	380	$67.00	$43,282	$ 83.56
Heifer Calves	92	360	56.00	18,547	35.80
Cull Cows	57	850	37.71	18,270	35.27
TOTAL GROSS REVENUE				$80,099	$154.63

Cash Costs	Units	Number of Units	Price	Value	Value/ Cow
BLM Grazing	AUMs	6,077	$1.86	$11,303	$21.82
Private Grazing	AUMs	357	0.0	0	0.0
State Grazing	AUMs	718	1.02	732	1.41
Salt & Mineral	CWT	181	4.88	886	1.71
Veterinary Medicine	$	2,004	1.00	2,004	3.87
Trucking	$	1,321	1.00	1,321	2.55
Marketing	$	1,352	1.00	1,352	2.61
Hired Labor	HRS	4,048	4.82	19,511	37.66
Machinery (Fuel & Lube)				1,756	3.39
Machinery Repair				642	1.24
Equipment (Fuel & Lube)				83	0.16
Equipment Repair				1,471	2.84
Interest on Operating Capital			0.15	4,175	8.06
Total Cash Costs				$45,236	$87.32
Net Revenue				$34,863	$67.31
Family Labor				12,000	23.16
Net Income				$22,863	$44.15

* Herd size (Small)--42 cows: 79 percent calf crop, 5 percent calf loss birth to weaning, 5 percent annual cow loss, 17 percent replacement rate, 14 cows per bull.
Herd size (Medium)--140 cows: 76 percent calf crop, 5 percent calf loss birth to weaning, 5 percent annual cow loss, 16 percent replacement rate, 14 cows per bull.
Herd size (Large)--518 cows: 70 percent calf crop, 6 percent calf loss birth to weaning, 4 percent annual cow loss, 15 percent replacement rate, 15 cows per bull.
SOURCE: Economic Research Services

APPENDIX 19
REPRESENTATIVE RANCH BUDGETS
Bureau of Land Management, Phoenix District, Arizona

Item	Small-Size Ranch Short Term	Small-Size Ranch Long Term	Medium-Size Ranch Short Term	Medium-Size Ranch Long Term	Large-Size Ranch Short Term	Large-Size Ranch Long Term
Proposed Action						
Revenue	$7,698	$7,698	$24,668	$26,155	$80,099	$82,619
Cash Costs	3,955	3,955	13,080	13,731	45,236	46,367
Net Revenue	3,743	3,743	11,588	12,424	34,863	36,251
Less Family Labor	(2,164)	(2,164)	(12,000)	(12,000)	(12,000)	(12,000)
Net Income	$1,579	$1,579	($ -412)	$ 424	$22,863	$24,250
No Action						
Revenue	$7,698	$7,698	$24,668	$24,688	$80,099	$80,099
Cash Costs	3,955	3,955	13,080	13,080	45,236	45,236
Net Revenue	3,743	3,743	11,588	11,588	34,863	34,863
Less Family Labor	(2,164)	(2,164)	(12,000)	(12,000)	(12,000)	(12,000)
Net Income	$1,579	$1,579	($ -412)	($ 412)	$22,863	$22,863
Resource Production						
Revenue	$6,336	$6,336	$22,416	$27,871	$72,034	$83,667
Cash Costs	3,296	3,296	11,956	14,759	41,602	47,240
Net Revenue	3,040	3,040	10,460	13,112	30,432	36,427
Less Family Labor	(2,050)	(2,050)	(12,000)	(12,000)	(12,000)	(12,000)
Net Income	$ 990	$ 990	($1,540)	$ 1,112	$18,432	$24,427
Resource Protection						
Revenue	$5,525	$5,525	$12,949	$12,949	$40,584	$40,584
Cash Costs	3,013	3,013	6,912	6,912	27,165	27,165
Net Revenue	2,512	2,512	6,037	6,037	13,419	13,419
Less Family Labor	(1,972)	(1,972)	(6,890)	(6,890)	(12,000)	(12,000)
Net Income	$ 540	$ 540	($ 852)	($ 852)	$ 1,419	$ 1,419

SOURCE: Lower Gila South Ranch Budgets, Phoenix District files

APPENDIX 20
TOTAL ANNUAL RANCH RECEIPTS, EXPENDITURES, AND REVENUES
Bureau of Land Management, Phoenix District, Arizona

Item	Ranch Size			RMP/EIS Total
	Small	Medium	Large	
Number of Ranches	4	6	7	17
Gross Revenue				
Per Ranch	7,698	24,668	80,099	
RMP/EIS Total	30,792	148,008	560,693	739,493
Expenditures				
Per Ranch	3,955	13,080	45,236	
RMP/EIS Total	15,820	78,480	316,652	410,952
Net Revenue				
Per Ranch	3,743	11,588	34,863	
RMP/EIS Total	14,972	69,528	244,041	328,541

SOURCE: Lower Gila South Ranch Budgets, Phoenix District files

APPENDIX 21
NUMBER OF RANCH EMPLOYEES AND THEIR EARNINGS
Bureau of Land Management, Phoenix District, Arizona

Item	Ranch Size			RMP/EIS Total
	Small	Medium	Large	
Number of Ranches	4	6	7	17
Labor Requirements (Hours per Year)				
Per Ranch	249	1,100	4,048	
RMP/EIS Total	996	6,600	28,336	35,932
Employement (1 Workyear = 2,600 Hours)				
Per Ranch	0.09	0.4	1.6	
RMP/EIS Total	0.36	2.5	10.9	13.8
Earnings ($12,500 per workyear)				
Per Ranch	1,200	5,302	19,511	
RMP/EIS Total	4,800	31,812	136,577	173,189

SOURCE: Lower Gila South Ranch Budgets, Phoenix District files

GLOSSARY, REFERENCES, AND INDEX

GLOSSARY, REFERENCES, AND INDEX

GLOSSARY

The following abbreviations are used in this EIS. Those representing terms are defined in the glossary.

ACEC	area of critical environmental concern
AG&FD	Arizona Game and Fish Department
AMP	allotment management plan
APS	Arizona Public Service
AUM	animal unit month
BLM	Bureau of Land Management
BR	Bureau of Reclamation
CFR	Code of Federal Regulations
CMU	Classification for Multiple Use
EIS	environmental impact statement
ESA	economic study area
FLPMA	Federal Land Policy and Management Act
FWS	Fish and Wildlife Service
HMAP	herd management area plan
HMP	habitat management plan
MFP	management framework plan
MSA	management situation analysis
NRDC	National Resource Defense Council
NWPS	National Wilderness Preservation System
ORV	off-road vehicle
RMP	resource management plan
SHPO	State Historic Preservation Officer
SMSAs	Standard Metropolitan Statistical Areas
USGS	U.S. Geological Survey
VRM	visual resource management
WSA	wilderness study area

Terms

ACTIVITY PLANNING. Site-specific planning which precedes actual development. This is the most detailed level of BLM planning.

ADJUDICATION. The legal processing of applications, entries, and claims to assure compliance with the public land laws and regulations.

ADMINISTRATIVELY ENDORSED WILDERNESS AREA. An area that the President ofthe United States has recommended to Congress as suitable for wilderness designation.

AGGLOMERATE. A rock composed largely or entirely of angular volcanic fragments held together in a matrix.

AIR QUALITY CLASSES. Classes established by the Environmental Protection Agency to define the amount of air pollution considered significant within an area. Class I applies to areas where almost any change in air quality would be considered significant and therefore not allowed; Class II applies to areas where the deterioration normally accompanying moderate well-controlled growth would be considered allowable; and Class III applies to areas where deterioration up to the national standards would be allowed.

ALLOTMENT. A land area where one or more operators' livestock graze. It generally consists of public land but may include parcels of private and state-owned lands. The number of livestock and the season of use are stipulated for each allotment.

ALLOTMENT MANAGEMENT PLAN (AMP). A BLM livestock grazing management plan for a specific allotment, based on multiple use resource management objectives. The AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources—watershed, vegetation, and wildlife. An AMP establishes the seasons of use, the number of livestock to be permitted on the range, and the rangeland developments needed.

ALLUVIAL. Pertaining to sediments transported and deposited by water.

ALLUVIAL FAN. A sloping, fan-shaped mass of sediment deposited by a stream where it emerges from an upland onto a plain. See Bajada.

ALLUVIUM. Unconsolidated rock or soil material deposited by running water, including gravel, sand, silt, clay, and various mixtures of these.

ANDESITE. A light-colored volcanic rock.

ANIMAL UNIT MONTH (AUM). The amount of forage needed to sustain one cow or its equivalent for one month.

ANNUAL (EPHEMERAL) PLANT. A plant that completes its life cycle and dies in one year or less (Range Term Glossary Committee, 1974).

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC). An ACEC is an area of national or international significance that is threatened by adverse change—a reduction or loss of values—unless special management attention is applied. With ACEC status, public land is managed to prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes.

ARIZONA NATURAL HERITAGE PROGRAM. A cooperative effort of the Nature Conservancy and the Arizona Game and Fish Department to maintain Arizona's biological diversity by collecting, analyzing, and disseminating information on the populations and distributions of plants and animals of special interest in the state. Being studied are Arizona species that are poorly understood and species with low populations or limited distribution within Arizona.

ARROYO. A small steep-sided and usually dry water course with a flat floor.

ASPECT (VEGETATION). The appearance that a dominant or most common species of vegetation gives to the viewer.

AUTHORIZED GRAZING PREFERENCE (QUALIFICATIONS). The total number of AUMs that livestock are allowed to graze annually on public lands. Preference is apportioned and attached to base waters or property owned or controlled by a permittee or lessee.

BAILEY-KUCHLER SYSTEM. A classification system that divides the United States into ecosystems based on climate, vegetation, soils, and landform.

BAJADA. A broad, gently inclined slope at the foot of a mountain, formed by the coalescing of alluvial fans.

BASALT. A dark rock, usually of volcanic origin.

BURRO HERD. One or more jacks (male burros) and their jennies (females).

BURRO HERD AREA. The area used by free-roaming burros during their yearly movements to obtain biological requirements; the area occupied by wild free-roaming burros at the passage of the Free-Roaming Wild Horse and Burro Act of December 15, 1971 and limited to that area by the Act, not to be expanded by the relocating of animals.

BURRO USE AREA. An area currently being used by burros. See Burro Herd Area.

CARRYING CAPACITY (GRAZING CAPACITY). The greatest stocking rate possible without damaging vegetation or related resources. It may vary from year to year in the same area because of fluctuating forage production (Range Term Glossary Committee, 1974).

CHAPARRAL. A vegetation type of dense brush and shrubs, which in the EIS area occurs between 4,000 and 7,000 feet in elevation and consists of the following plants: mountain mahogany, shrub live oak, desert ceanothus, cliffrose, manzanita, skunkbush, shrubby buckwheat, and desert

needlegrass. Chaparral provides significant forage and cover for wildlife and livestock.

CHERRYSTEM ROAD. A dead-end road extending into and surrounded by a wilderness study area (WSA) but not within its boundaries. Such roads may lead to range developments, mines, or inholdings. Cherrystemming is the delimiting of WSAs to exclude a cherrystem road, developments, or other uses not compatible with wilderness.

CLASSIFICATION FOR MULTIPLE USE. Land classification to determine whether public lands shall be disposed of or retained, authorized by the Classification and Multiple Use Act of 1964 (78 Stat. 986, 43 U.S.C. 1411-18)

CRITICAL MINERALS. Minerals essential to the national defense of the United States, which, though difficult to procure, are easier to procure than strategic minerals because they can be domestically produced, obtained in more adequate quantities, or are less essential than strategic minerals. Nevertheless, critical minerals need some degree of conservation and distribution control. See Strategic Minerals.

CRITICAL WILDLIFE HABITAT. That part of the habitat of a federally threatened or endangered wildlife species that is essential for its survival and perpetuation.

CRUCIAL WILDLIFE HABITAT. That part of the habitat of a wildlife species that is essential to its survival and perpetuation as a population.

CULTURAL RESOURCE INVENTORY CLASSES.

Class I —A prepared study of existing cultural resource data from published and unpublished documents, various institutional site inventory records, state and national registers, and other sources leading to a compilation and analysis of all available data and synthesis of the data.

ClassII —A professionally conducted, statistically based sample survey designed to characterize the probable density, diversity, and distribution of cultural properties within a project area. Sample units are inventoried with the methods described under Class III. Several phases with differing sample designs and intensities may be conducted.

CLASS III —A professionally conducted systematic intensive survey of an entire target area, aimed at locating and recording all cultural properties. Crew members commonly walk parallel, closely-spaced transects until the area has been thoroughly examined.

CULTURAL RESOURCES. Those fragile and nonrenewable remains of human activity, occupation, or endeavor (reflected in districts, sites, structures, buildings, objects, artifacts, ruins, works of art, architecture, and natural features) which were of importance in human events. These resources consist of (1) physical remains, (2) areas where significant human events occurred—even though evidence of the event no longer remains, and (3) the environment immediately surrounding the actual resource.

CULTURAL RESOURCE SITE. A physical location of past human activities or events. Sites vary in size, ranging from the location of a single cultural resource object to a cluster of cultural resource structures with associated objects and features.

CULTURAL RESOURCE USE CATEGORIES.

Public Use - means that a cultural property is eligible for consideration as an interpretive exhibit-in-place, a subject of supervised participation in scientific or historical study, or related educational and recreational uses by members of the general public.

Socio-cultural Use- means that a cultural resource is perceived by a specified social and/or cultural group as having attributes which contribute to maintaining the heritage or existence of that group, and is to be managed in a way that takes those attributes into account.

Management Use- means that a cultural property is eligible for controlled experimental study which would result in its physical alteration—the study to be conducted for purposes of obtaining specific information leading to a better understanding of kinds and rates of natural or human-caused deterioration, and determining effectiveness of protection measures, as well as similar lines of inquiry which would ultimately aid in the management of cultural properties.

Potential Scientific Use - means that a cultural property is presently eligible for consideration as the subject of scientific or historical study utilizing research techniques currently available, including study which would result in its physical alteration; and the property need not be conserved in the face of an appropriate research or mitigation proposal.

Conservation for Future Use- means that because of (1) scarcity of similar cultural properties, (2) a research potential that surpasses the current state of the art, (3) singular historic importance or architectural interest, or (4) comparable reasons, a cultural property is (a) not presently eligible for consideration as the subject of scientific or historical study which would result in its physical alteration, (b) that it is worthy of segregation from other land or resource uses which would threaten the maintenance of its present condition, and that (c) it will remain in this use category until specific provisions are met in the future.

Current Scientific Use - means that a cultural property is the subject of an ongoing scientific or historical study or project at the time of evaluation.

Discharged Use - means that a cultural property previously qualified for assignment to any of the categories defined above (1) no longer possesses the qualifying characteristics for that use or for assignment to an alternative use, or (2) that its records are its only important characteristic; therefore its location no longer presents a management constraint for competing land uses.

CUSTODIAL GRAZING MANAGEMENT. A limited form of rangeland management employed when the percentage of public land is small, when public land is scheduled to be transferred from public ownership, or when other conditions are not conducive to intensive management. Under custodial management, an allottee is not required to follow a specified grazing system. BLM licenses custodial allotments only for the capacity of the public land but does not control overall livestock numbers.

ECONOMIC MINERAL DEPOSIT. Any mineral deposit of sufficient quality and quantity to produce a profit when mined. (See Subeconomic Resource.)

ECONOMIC STUDY AREA (ESA) In this EIS, the three-county area (Maricopa, Pima, and Yuma Counties, Arizona) in which the RMP/EIS area is located and whose economy would be affected by wilderness designation.

ECOTONE. A transition line or strip of vegetation between two communities, having characteristics of both kinds of neighboring vegetation as well as characteristics of its own (Soil Conservation Society of America, 1970).

ENDANGERED ANIMAL SPECIES. Any animal species in danger of extinction throughout all or a significant portion of its range. This definition excludes species of insects that the Secretary of the Interior determines to be pests and whose protection under the Endangered Species Act of 1973 would present an overwhelming and overriding risk to man.

ENDANGERED PLANT SPECIES. Species of plants in danger of extinction throughout all or a significant portion of their ranges. Existence may be endangered because of the destruction, drastic change, or severe curtailment of habitat, or because of overexploitation, disease, predation, or unknown reasons. Plant taxa from very limited areas, e.g., the type localities only, or from restricted fragile habitats are usually considered endangered. See Threatened and Sensitive Plant Species.

ENVIRONMENT. The surrounding conditions, influences, or forces that affect or modify an organism or an ecological community and ultimately determine its form and survival.

ENVIRONMENTAL ASSESSMENT (EA). The procedure for analyzing the impacts of some proposed action on a given environment and the documentation of that analysis. An EA is similar to an environmental impact statement (EIS) but is generally smaller in scope. An EA may be preliminary to an EIS.

ENVIRONMENTAL IMPACT STATEMENT (EIS). An analytical document developed for use by decisonmakers to weigh the environmental consequences of a potential decision. An EIS should accurately portray potential impacts on the human environment of a particular course of action and its possible alternatives.

EPHEMERAL ALLOTMENT. An allotment on which livestock grazing is permitted when sufficient precipitation and temperatures provide the potential for the growth of abundant annual (ephemeral) vegetation. See Perennial-Ephemeral Allotment.

EPHEMERAL RANGELAND. Rangeland that does not consistently produce forage but periodically provides annual vegetation suitable for livestock grazing.

EPHEMERAL VEGETATION. (See Annual Plant).

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA). Public law 94-579, which gives BLM the legal authority to establish public land policy; to establish guidelines for administering such policy; and to provide for the management, protection, development, and enhancement of the public lands.

FORAGE. All browse and herbaccous foods, available to grazing animals, which may be grazed or harvested for feeding (Range Term Glossary Committee, 1974).

GRANDFATHERED USES. A mineral, grazing, or right-of-way use that occurred on the land on the date of approval of the Federal Land Policy and Management Act (FLPMA) (October 21, 1976). Under BLM Interim Management Policy and Guidelines for Lands Under Wilderness Review, grandfathered uses may continue on lands under wilderness review in the same manner and degree as on the date of FLPMA's approval, even if such uses impair wilderness suitability. These uses, however, must be regulated to ensure that they do not unnecessarily degrade these lands.

HABITAT. A specific set of physical conditions that surround a single species, a group of species, or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover, and living space.

HABITAT MANAGEMENT PLAN (HMP). A written and officially approved plan (for aspecific geographical area of public land) that identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

HARDROCK MINING. The extraction of locatable minerals except for placer deposits.

HERD MANAGEMENT AREA PLAN (HMAP). Plan for the management of a geographic area used by wild horses or burros. A HMAP outlines details of a burro or horse capture plan, adoption program, and long-term management of populations.

HOHOKAM. A desert farming culture centered in the middle Gila and Salt River drainage basins of Arizona. The Hohokam produced a characteristic type of red-on-buff pottery. The culture flourished from about 300 B.C. to 1450 A.D.

INHOLDING. A parcel of state or private land surrounded by a wilderness study area.

INTRUSION (VISUAL RESOURCES). A feature (land, vegetation, or structure) that is generally considered out of context with the characteristic landscape.

LITHIC SITE. A site containing debris left from the manufacture, use, or maintenance of flaked stone tools.

LOCATABLE MINERAL. Any mineral that can have a mining claim filed on it under the Mining Law of 1872 as amended.

LOCATION. The act of fixing the boundaries of a mining claim according to law or the claim itself.

MANAGEMENT FRAMEWORK PLAN (MFP). A land use plan for public lands (for aspecific planning area) that provides a set of goals, objectives, and constraints to guide the development of detailed plans for the management of each resource.

MINERALIZED AREA. An area that has exposures of near-surface deposits of potentially valuable minerals.

MANAGEMENT SITUATION ANALYSIS (MSA). A BLM reference document describing the affected environment of the planning area, including current management practices and programs. The MSA is a basic descriptive and analytic reference for resource condition, trend, demands, and capabilities in the planning area, providing the basis for formulating and analyzing plan alternatives.

MULTIPLE USE MANAGEMENT (PRINCIPLES). "...the management of the publiclands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people, making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions, the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." (Section 103, Federal Land Policy Management Act of 1976.)

NATURAL AREA. Lands managed for retention of their typical or unusual plant or animal types, associations, or other biotic phenomena; or for their outstanding scenic, geologic, pedologic (pertaining to soils), or aquatic features or processes.

OFF-ROAD VEHICLE (ORV). Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland, or other natural terrain, excluding (a) any registered motorboat, (b) any fire, military, emergency, or law enforcement vehicle when used for emergencies and any combat or combat support vehicle when used for national defense, and (c) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract.

OFF-ROAD VEHICLE (ORV) DESIGNATION. This option designates public lands open,closed, or limited to ORV use. In recognizing ORV use of the public lands, it establishes controls on the use and operation of ORVs. The objective is to provide for ORV use, protect the public lands, promote user safety, and reduce user group conflicts.

ORE. A mineral deposit of sufficient quality and quantity to be mined at a profit.

OVERTHRUST BELT (ZONE). An extensive zone in western North America (believed to extend from Canada to Mexico) where an overthrust fault has forced older rocks on top of younger rocks. The discovery of oil and gas in the younger rock layers has aroused much interest in exploration throughout the belt, including Arizona.

PERENNIAL-EPHEMERAL ALLOTMENT. An allotment on which livestock are permitted to graze perennial vegetation but on which additional livestock grazing may be authorized should sufficient annual (ephemeral) forage be present. See Ephemeral Allotment.

PERENNIAL PLANT. A plant that has a life cycle of three or more years (Range Term Glossary Committee, 1974).

PERENNIAL STREAM. A stream that flows throughout the year.

PETROGLYPH. An art figure or symbol cut, carved, or pecked into a stone surface.

PICTOGRAPH. An art figure or symbol drawn or painted on a stone surface.

PLACER DEPOSIT. An alluvial or glacial deposit, as of sand or gravel, containing particles of gold or other valuable minerals.

PLACER MINING. The extraction of heavy minerals from a placer deposit by concentration in running water. Placer mining includes ground sluicing, panning, shoveling gravel into a sluice, scraping by power scraper, and excavation by drag line.

PRIMITIVE AND UNCONFINED RECREATION. Nonmotorized and nondeveloped types of outdoor recreation (hiking, backpacking, camping, and hunting).

PRIMITIVE AREAS. Areas established to preserve, protect, and enhance lands of scenic splendor, natural wonder, scientific interest, primitive environment, and other natural values for the enjoyment and use of present and future generations. BLM primitive areas are managed to maintain the same quality.

PROSPECT. An attempt to determine mineral values or the site of this attempt.

PRUDENT MAN RULE. The Prudent Man Rule is the test of discovery used by the Department of the Interior. The test determines

> "...where minerals have been found and the evidence is of such a character that a person of ordinary prudence would be justified in the further expenditure of his labor and means, with a reasonable prospect of success, in developing a valuable mine, the requirements of the statutes have been met."

This test has been approved by the Supreme Court of the United States in many cases (e.g., *Chrisman v. Miller, 197 US 313 (1905); Best v. Humboldt Placer Mining Company, 371 US 334 (1963); U.S. v. Coleman, 390 US 599 (1968).*

PUBLIC LAND. Federal lands administered by the Bureau of Land Management.

RANGELAND (RANGE). Land dominated by vegetation that can be grazed or browsed and whose husbandry is provided routinely through grazing management instead of renovation or cultural treatment.

RANGELAND DEVELOPMENT. A structure, development, or action used together with good management practices and land use planning recommendations (1) to rehabilitate, protect, and improve public land and its resources; (2) to arrest rangeland deterioration; and (3) to improve forage condition, fish and wildlife habitat, watershed protection, and livestock production.

RAPTOR. A bird of prey with sharp talons and strongly curved beak.

RESOURCE MANAGEMENT PLAN (RMP). A BLM planning document that presents systematic guidelines for making resource management decisions for a resource area. An RMP is based on an analysis of an area's resources, their existing management, and their capability for alternative uses. RMPs are issue-oriented and developed by an interdisciplinary team with public participation.

RHYOLITE. A silica-rich fine-grained rock of volcanic origin.

RIPARIAN. Situated on or pertaining to the bank of a river, stream, or other body of water. Riparian is normally used to refer to the plants of all types that grow near bodies of water.

ROADLESS. The absence of roads that have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

SCHIST. Any of various medium- to coarse-grained metamorphic rocks composed of laminated, often flaky, parallel layers of chiefly micaceous minerals.

SCOPING. An early and open process for determining the scope of issues to be addressed in an EIS and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, and written comments in response to news releases, direct mailings, and articles about the proposed action and scoping meetings.

SEGREGATION. Any action such as a withdrawal or allowed application (exchange) that suspends the operation of the general public land laws. To separate, set apart, or to remove lands from the jurisdiction of part or all the public land mineral laws.

SENSITIVE PLANT SPECIES. Plants whose populations are consistently small and widely dispersed or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat availability, or habitat condition might lead toward extinction. Sensitive plants also include species rare in one locality (such as in Arizona) but abundant elsewhere. See Endangered and Threatened Plant Species.

SITE (ARCHAEOLOGICAL). A physical location where human activities or events occurred.

SOCIOCULTURAL RESOURCES. Places, objects, structures, and things of importance to a subgroup or population at large. Included are values that reflect the concepts, religion, social heritage, habits, skills, arts, and lifestyles of a given people.

SPECIAL EPHEMERAL RULE. Allows livestock grazing on certain public land inthose years that moisture and/or other conditions produce sufficient forage. (See Federal Register, Vol. 33, No. 238, December 7, 1968.)

SPECIAL-STATUS SPECIES. Those wildlife species either federally listed as endangered or threatened, state-listed, or listed by BLM as sensitive.

STANDARD METROPOLITAN STATISTICAL AREA (SMSA). A county that contains at least one city of 50,000 residents or more and as many adjacent counties as are metropolitan in character and are socially integrated with that central city or cities.

STATE HISTORIC PRESERVATION OFFICER (SHPO). The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as a liaison for implementing the National Historic Preservation Act of 1966.

STRATEGIC MINERALS. Minerals essential to the national defense, for the supply of which the United States is wholly or in part dependent upon sources outside its continental limits and for which strict measures are needed to control conservation and distribution.

SUPPLEMENTAL WILDERNESS VALUES. Resources not required for an area to be designated a wilderness but that are considered in assessing the wilderness potential of an area. Such values include ecological, geologic, and other features of scientific, educational, scenic, or historic value.

THREATENED ANIMAL SPECIES. Any animal species likely to become endangered within the foreseeable future throughout all or a significant part of its range. See Endangered Animal Species.

THREATENED PLANT SPECIES. Species of plants that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges, including species categorized as rare, very rare, or depleted. See Endangered Plant Species and Sensitive Plant Species.

TUFF. A rock formed of compacted volcanic fragments that are generally smaller than four millimeters in diameter.

UTILIZATILON (FORAGE). The proportion of the current year's forage consumed or destroyed by grazing animals. Utilization is usually expressed as a percentage.

VALID EXISTING RIGHT. "Valid existing right" means a valid discovery had been made and continues to be valid at the present time.

VEGETATION TYPE. A plant community with distinguishable characteristics, described by the dominant vegetation present.

VEHICLE WAY. A vehicle route established and maintained solely by the passage of motor vehicles.

VISITOR DAY. Twelve visitor hours which may be aggregated continuously, intermittently, or simultaneously by one or more people.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES. Classification containing specific objectives for maintaining or enhancing visual resources, including the kinds of structures and modifications acceptable to meet established visual goals.

WILDERNESS. An uncultivated, uninhabited, and usually roadless area set aside for preservation of natural conditions. According to section 2(c) of the Wilderness Act of 1964.

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

WILDERNESS STUDY AREA (WSA). A roadless area or island that has been inventoried and found to have wilderness characteristics as described in section 603 of the Federal Land Policy and Management Act and section 2(c) of the Wilderness Act of 1964 (78 Stat. 891).

WITHDRAWAL. An action that restricts the disposal of public lands and holds them for specific public purposes; also, public lands that have been dedicated to public purposes.

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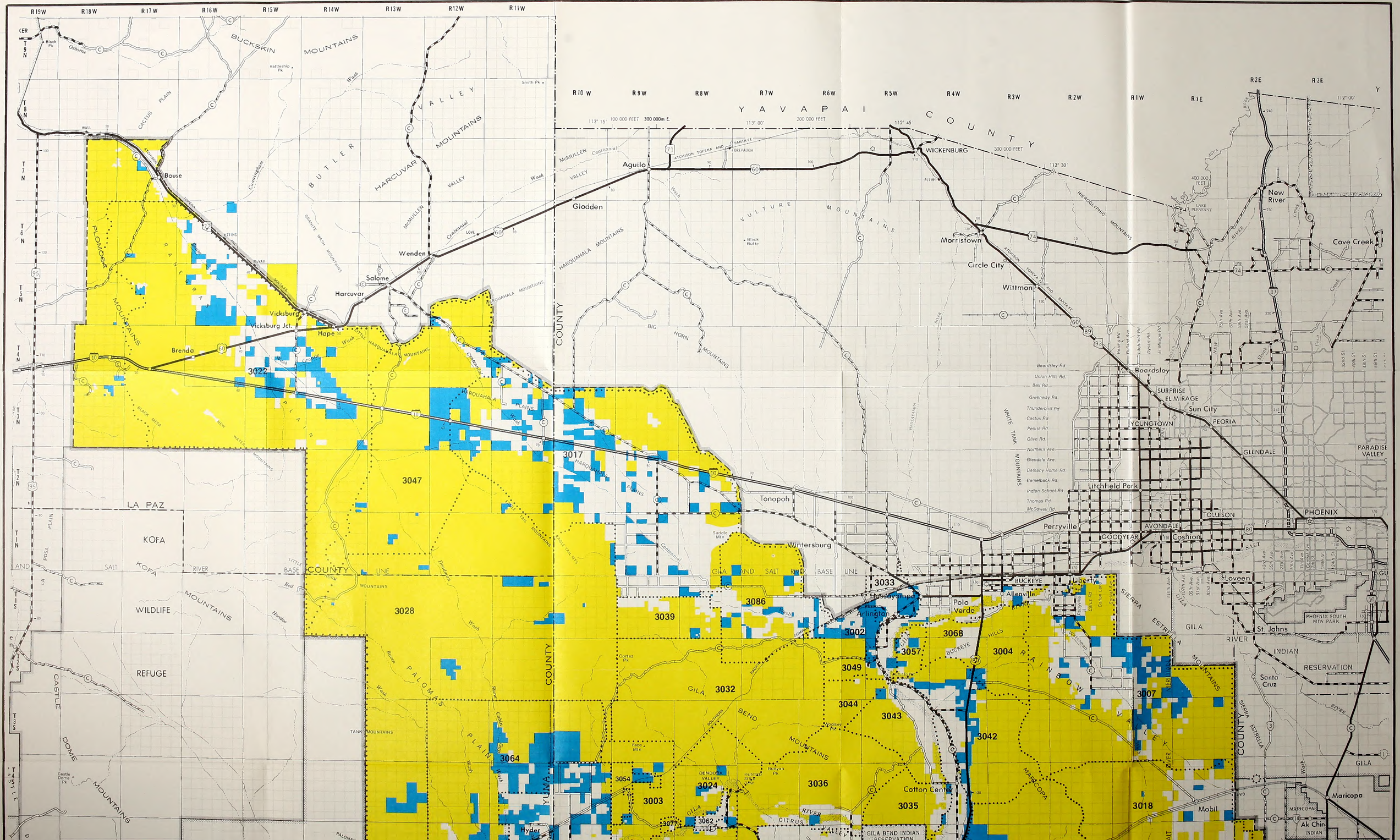
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BUTLER VALLEY
HARCUVAR MOUNTAINS
McMULLEN VALLEY
VULTURE MOUNTAINS
HARQUAHALA MOUNTAINS
HARQUAHALA PLAINS
BIG HORN MOUNTAINS
PLOMOSA MOUNTAINS
RANEGRAS PLAIN
GRANITE WASH MOUNTAINS
BLACK MESA
NEW WATER MOUNTAINS
EAGLETAIL MOUNTAINS
PALOMAS PLAIN
TANK MOUNTAINS
CASTLE DOME MOUNTAINS
WHITE TANK MOUNTAINS
SIERRA ESTRELLA MOUNTAINS
HIEROGLYPHIC MOUNTAINS
BUCKEYE HILLS
RAINBOW VALLEY
GILA BEND MOUNTAINS
YAVAPAI COUNTY
LA PAZ COUNTY
YUMA COUNTY
MARICOPA COUNTY
GILA BEND INDIAN RESERVATION
SALT RIVER INDIAN RESERVATION
GILA RIVER INDIAN RESERVATION
KOFA WILDLIFE REFUGE
Bouse
Aguilo
Glodden
Wenden
Salome
Harcuvar
Vicksburg
Vicksburg Jct.
Hope
Brenda
Tonopoh
Wintersburg
Hyder
WICKENBURG
Morristown
Circle City
Wittmon
Beardsley
SURPRISE
El Mirage
Sun City
YOUNGTOWN
PEORIA
GLENDALE
PARADISE VALLEY
Litchfield Park
PHOENIX
TOLLESON
Perryville
AVONDALE
GOODYEAR
Coshion
Buckeye
Liberty
Allenville
Hassayampa
Arlington
Polo Verde
Loveen
St Johns
Santa Cruz
Cove Creek
New River
Cotton Center
Mobil
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Smith Pk
Black Pk
Black Butte
Cortez Pk
Dunyan Pk
Castle Dome Pk
Saddle Mtn
Wolfkeiser Pk
Pacific Railway
Atchison Topeka and Santa Fe
Southern Pacific
Roosevelt Canal
Beardsley Rd
Union Hills Rd
Bell Rd
Greenway Rd
Thunderbird Rd
Cactus Rd
Peoria Rd
Olive Rd
Northern Ave
Glendale Ave
Bethany Home Rd
Camelback Rd
Indian School Rd
Thomas Rd
McDowell Rd
Lake Pleasant
Phoenix South Mtn Park
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113° 00'
112° 45
112° 30'
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200 000 FEET
300 000 FEET
400 000 FEET
300 000m E.

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LEGEND

- PUBLIC LAND
- STATE LAND
- PRIVATE LAND
- Planning Unit Boundary
- County Boundary
- Allotment Boundaries
- DIVIDED HWY.
- BITUMINOUS OR CONCRETE
- BITUMINOUS SURFACE TREATED
- GRAVEL
- GRADED AND DRAINED
- UNIMPROVED
- CONNECTING ROADS
- ROUTE MARKERS: INTERSTATE, U.S. STATE, INDIAN, COUNTY
- MILEPOST
- NATIONAL FOREST
- INDIAN RESERVATION
- NATIONAL MONUMENT AND PARK
- LAND GRANT
- NOGALES — COUNTY SEAT
- PATAGONIA — INCORPORATED CITIES
- Sonoita — OTHER TOWNS OR VILLAGES
- AIRPORT: FACILITIES
- AIRPORT: NO FACILITIES

SCALE

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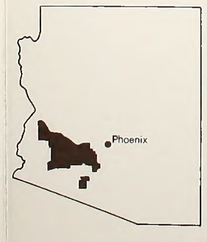
STATUTE MILES

LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

AUGUST 1984

U.S. Department of the Interior

Bureau of Land Management – Phoenix District



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BLM Basemaps
Aerial Photography

BASEMAP © AZ. DEPT. OF TRANS.

ALLOTMENT BOUNDARIES

LEGEND	
A LAZY T	3002
AMAVISCA	3003
ARNOLD	3004
ARTEX	3005
BELOAT	3007
BIG HORN	3009
CAMERON	3013
CHILDS	3016
CLEM	3017
CONLEY	3018
COYOTE FLAT	3020
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SECTIONIZED TOWNSHIP

For more information

BUREAU OF LAND MANAGEMENT
PHOENIX DISTRICT OFFICE
2015 W. DEER VALLEY ROAD
PHOENIX, AZ 85027
PHONE (602) 863-4464

R19W R18W R17W R16W R15W R14W R13W R12W R11W R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E

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YAVAPAI COUNTY

MARICOPA COUNTY

LA PAZ COUNTY

YUMA COUNTY

BUCKSKIN MOUNTAINS

BUTLER VALLEY

HARCUVAR MOUNTAINS

HARQUAHALA MOUNTAINS

HARQUAHALA PLAINS

HARQUAHALA VALLEY

LITTLE HARQUAHALA MOUNTAINS

VULTURE MOUNTAINS

BIG HORN MOUNTAINS

WHITE TANK MOUNTAINS

HIEROGLYPHIC MOUNTAINS

SIERRA ESTRELLA MOUNTAINS

PALOMAS PLAIN

EAGLE TAIL MOUNTAINS

CASTLE DOME MOUNTAINS

TANK MOUNTAINS

GRANITE WASH MOUNTAINS

CACTUS PLAIN

BLACK MESA

KOFA MOUNTAINS

KOFA WILDLIFE REFUGE

GILA BEND MOUNTAINS

RAINBOW VALLEY

GILA BEND INDIAN RESERVATION

SALT RIVER INDIAN RESERVATION

Aguila

Gladden

Wenden

Salome

Harcuvar

Vicksburg

Vicksburg Jct.

Hope

Brenda

Bouse

Tanapah

Wintersburg

Hassayampa

Arlington

Palo Verde

Buckeye

Allenville

Liberty

Loveen

Cashion

Goodyear

Avondale

Tolleson

Phoenix

Perryville

Litchfield Park

Glendale

Peoria

Sun City

Youngtown

Surprise

El Mirage

Beardsley

Marristown

Circle City

Wittman

Wickenburg

New River

Cave Creek

Black Mesa

Castle Dome Pk

Cortez Pk

Face Mtn

Woolsey Pk

Bunyan Pk

Saddle Mtn

Black Butte

Battleship Pk

Smith Pk

Black Pk

Hyder

Cattan Center

Mobil

Maricopa

Ak Chin

Santa Cruz

St. Johns

2-125

2-126A

2-127

2-128

2-129

2-136

2-138

2-142/144

2-157

2-164

ATCHISON TOPEKA AND SANTA FE

McMULLEN Centennial VALLEY

Centennial

Wash

Osborne

Christopher

Granite

Harquahala

Rincon

Tiger

Dendora Valley

Painted Rock

Gila Bend

Southern

Eagle Tail Mts

Dendora

Rincon

Roseta

Rincon

Rincon

Rincon

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LEGEND

- PUBLIC LAND
- STATE LAND
- PRIVATE LAND
- Planning Unit Boundary
- County Boundary
- Wilderness Study Area Boundary
- DIVIDED HWY.
- BITUMINOUS OR CONCRETE
- BITUMINOUS SURFACE TREATED
- GRAVEL
- GRADED AND DRAINED
- UNIMPROVED
- CONNECTING ROADS
- ROUTE MARKERS: INTERSTATE, U.S. STATE, INDIAN, COUNTY
- MILEPOST
- NATIONAL FOREST
- INDIAN RESERVATION
- NATIONAL MONUMENT AND PARK
- LAND GRANT
- NOGALES — COUNTY SEAT
- PATAGONIA — INCORPORATED CITIES
- Sonoita — OTHER TOWNS OR VILLAGES
- AIRPORT: FACILITIES
- AIRPORT: NO FACILITIES

SCALE

5 0 5 10 15

STATUTE MILES

LOWER GILA SOUTH
RESOURCE MANAGEMENT PLAN

AUGUST 1984

U.S. Department of the Interior

Bureau of Land Management – Phoenix District

Sources: Az. Dept. of Trans.
BLM Basemaps
Aerial Photography

BASEMAP © AZ. DEPT. OF TRANS.

WILDERNESS STUDY AREAS

WILDERNESS STUDY AREAS	
2-125	NEW WATER MOUNTAINS
2-126A	LITTLE HORN MOUNTAINS WEST
2-127	LITTLE HORN MOUNTAINS
2-128	EAGLETAIL MOUNTAINS
2-129	EAST CLANTON HILLS
2-136	FACE MOUNTAIN
2-138	SIGNAL MOUNTAIN
2-142/144	WOOLSEY PEAK
2-157	NORTH MARICOPA MOUNTAINS
2-163	SOUTH MARICOPA MOUNTAINS
2-164	BUTTERFIELD STAGE MEMORIAL
2-172	TABLE TOP MOUNTAINS

SECTIONIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

For more information:

BUREAU OF LAND MANAGEMENT
PHOENIX DISTRICT OFFICE
2015 W. DEER VALLEY ROAD
PHOENIX, AZ 85027
PHONE (602) 863-4464

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DEPARTMENT OF THE INTERIOR
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INT 415

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STATE DIRECTOR
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